

**SOLICITATION, OFFER,  
AND AWARD**  
(Construction, Alteration, or Repair)

1. SOLICITATION NUMBER

DACW67-01-B-0006

2. TYPE OF SOL

☒ SEALED BID (IF BI)☐ NEGOTIATED (RFP)

3. DATE ISSUED

Dec 15, 2000

PAGE OF PAGES

1 100

**IMPORTANT - The "offer" section on the reverse must be fully completed by the offeror.**

4. CONTRACT NUMBER

DACW67-01-C-0006

5. REQUISITION/PURCHASE REQUEST NUMBER

W68MD9-0290-1132

6. PROJECT NUMBER

7. ISSUED BY

CODE

 Seattle District, Corps of Engineers  
 ATTN: CENWS-CT-CB  
 PO Box 3755  
 Seattle, WA 98124-3755

W68MD9

8. ADDRESS OFFER TO

 Seattle District, Corps of Engineers  
 PO Box 3755 ATTN: CENWS-CT-CB  
 Seattle, WA 98124-3755

 HAND CARRY: Preston Conference Room  
 4735 East Marginal Way South  
 Seattle, WA 98134-2385

BID OPENING ROOM: Preston Conference Room

9. FOR INFORMATION CALL

A. NAME

See Information Page inside Front Cover

 B. TELEPHONE NUMBER (include area code) (NO COLLECT CALLS)  
 See Information Page inside Front Cover

**SOLICITATION**
**NOTE: In sealed bid solicitations "offer" and "offeror" mean "bid" and "bidder".**
**10. THE GOVERNMENT REQUIRES PERFORMANCE OF THE WORK DESCRIBED IN THESE DOCUMENTS (Title, identifying number, date):**

Furnish all labor, materials and equipment and perform all work for Goldsborough Creek Section 206 Restoration, Mason County, Washington, in accordance with the attached Contract Clauses, Special Clauses, Technical Specifications and Drawings.

1. Solicitation No. DACW67-01-C-0006 dated 15 Dec 00 with 1 amendments thereto.
2. Wage Determination No. WA000001 with 18 modifications thereto.
3. Drawings as listed in Section 00800.
4. Portions of this contract are altered as indicated on the following page.

11. The Contractor shall begin performance within

10

calendar days and complete it within

\*

calendar days after receiving

☒ award,☐ notice to proceed. This performance period is☒ mandatory,☐ negotiable. (See

Paragraph SC-1, 00800)

 12A. THE CONTRACTOR MUST FURNISH ANY REQUIRED PERFORMANCE PAYMENT BONDS?  
 (If "YES," indicate within how many calendar days after award in item 12B.)
☒ YES☐ NO

12B. CALENDAR DAYS

10

13. ADDITIONAL SOLICITATION REQUIREMENTS:

A. Sealed offers in original and

0

copies to perform the work required are due at the place specified in item 8 by

local time

January 17, 2001

(date). If this is a sealed bid solicitation, offers will be publicly opened at that time. Sealed envelopes

2:00 p.m. (hour)

containing offers shall be marked to show the offeror's name and address, the solicitation number, and the date and time offers are due.

B. An offer guarantee

☒ is,☐ is not required.

C. All offers are subject to the (1) work requirements, and (2) other provisions and clauses incorporated in the solicitation in full text or by reference.

D. Offers providing less than

0

calendar days for Government acceptance after the date offers are due will not be considered and will

## OFFER (Must be fully completed by offeror)

## 14. NAME AND ADDRESS OF OFFEROR (Include ZIP Code)

STAN PALMER CONSTRUCTION, INC.  
5107 STATE HWY 3 SW  
PORT ORCHARD, WA 98367

Tax ID No: 91-1078790 DUNS No: 09-364-4888  
eMail: [thaga@spcone.com](mailto:thaga@spcone.com) CAGE CODE OGSP0

CODE

FACILITY CODE

## 15. TELEPHONE NUMBER (Include area code)

(360) 674-2100

FAX: (360) 674-7190

## 16. REMITTANCE ADDRESS (Include only if different than Item 14)

17. The offeror agrees to perform the work required at the prices specified below in strict accordance with the terms of this solicitation, if this offer is accepted by the Government in writing within 0 calendar days after the date offers are due. (Insert any number equal or greater than the minimum requirement stated in 13D. Failure to insert any number means the offeror accepts the minimum in Item 13D.)

AMOUNTS

See page 2-b

18. The offeror agrees to furnish any required performance and payment bonds.

## 19. ACKNOWLEDGEMENT OF AMENDMENTS

(The offeror acknowledges receipt of amendments to the solicitation - give number and date of each)

AMENDMENT NO.	1													
DATE	1/27/01													

## 20A. NAME AND TITLE OF PERSON AUTHORIZED TO SIGN OFFER (Type or print)

STAN B. PALMER, PRESIDENT

## 20B. SIGNATURE



## 20C. OFFER DATE

01/17/01

## 21. ITEMS ACCEPTED

AWARD (To be completed by Government)

0001 - 0018

## 22. AMOUNT

\$3,340,200.00

## 23. ACCOUNTING AND APPROPRIATION DATA

See Alterations Page

24. SUBMIT INVOICES TO ADDRESS SHOWN IN  
(4 copies unless otherwise specified)ITEM  
26

## 25. ADMINISTERED BY

CODE

United States Army Corps of Engineers  
Northwest Area Office  
PO Box 92146  
Tillicum WA 98492-0146

## 25. OTHER THAN FULL AND OPEN COMPETITION PURSUANT TO

☐ 30 U.S.C. 2304(c)(1)☐ 41 U.S.C. 253(e)(1)

## 27. PAYMENT WILL BE MADE BY

US Army Corps of Engineers Finance Center  
CEFC-AO-P  
5722 Integrity Drive  
Millington, TN 38054-5005

CONTRACTING OFFICER WILL COMPLETE ITEM 28 OR 29 AS APPLICABLE

☐ 28. NEGOTIATED AGREEMENT (Contractor is required to sign this

document and return copies to the issuing office.) Contractor agrees to furnish and deliver all items or perform all work requirements identified on this form and any continuation sheets for the consideration stated in this contract. The rights and obligations of the parties to this contract shall be governed by (a) this contract award, (b) the solicitation, and (c) the clauses, representations, certifications, and specifications incorporated by reference in or attached to this contract.

☒ 29. AWARD. (Contractor is not required to sign this document.) Your offer on this solicitation is hereby accepted as to the items listed. This award consummates the contract, which consists of (a) the Government solicitation and your offer, and (b) this contract award. No further contractual document is necessary.

30A. NAME AND TITLE OF CONTRACTOR OR PERSON AUTHORIZED TO SIGN  
(Type or print)

## 31A. NAME OF CONTRACTING OFFICER (Type or print)

JANET L. OLSON

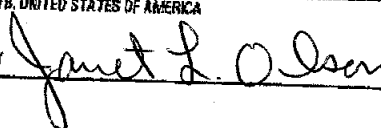
## 30B. SIGNATURE

## 30C. DATE

## 31B. UNITED STATES OF AMERICA

## 31C. AWARD DATE

BY



13 FEB 01

ALTERATIONS IN CONTRACT  
(FAR 52.252-4) (APR 1984)

DACW67-01-C-0006

Portions of this contract are altered as follows:

In accordance with the Continuing Contracts (EFARS 52.232-500002) (MAR 1995) clause, incorporated in the award:

“(a) Funds are not available at the inception of this contract to cover the entire Contract price. The sum of \$800,000.00 has been reserved for this Contract and is available for payments to the Contractor during the current fiscal year. It is expected that Congress will make appropriations for future fiscal years from which additional funds will be reserved for this Contract. The liability of the United States for payments beyond the funds reserved for this Contract is contingent on the reservation of additional funds.”

Accounting and Appropriations Data

96X31220000 082433	2520002NST150192	NA	96453	\$520,000.00	Federal contribution
96X88620000 082433	2520002NST150192	NA	96453	\$280,000.00	Sponsor contribution


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CONTRACT NUMBER: \_\_\_\_\_

IF THE CONTRACTOR IS A CORPORATION OR PARTNERSHIP, THE APPLICABLE PORTION OF THE FORM LISTED BELOW MUST BE COMPLETED. IN THE ALTERNATIVE, OTHER EVIDENCE MUST BE SUBMITTED TO SUBSTANTIATE THE AUTHORITY OF THE PERSON SIGNING THE CONTRACT. IF A CORPORATION, THE SAME OFFICER SHALL NOT EXECUTE BOTH THE CONTRACT AND THE CERTIFICATE.

### CORPORATE CERTIFICATE

I, Sandra Tappan, certify that I am the Secretary/Treasurer Secretary of the Corporation named as Contractor herein; that Stan B. Palmer who signed this contract on behalf of the Contractor was then President of said corporation; that said contract was duly signed for and on behalf of said corporation by authority of its governing body and is within the scope of its corporate powers.

 (CORPORATE SEAL)  
(Secretary)

### AUTHORITY TO BIND PARTNERSHIP

This is to certify that the names, signatures and Social Security Numbers of all partners are listed below and that the person signing the contract has authority actually to bind the partnership pursuant to its partnership agreements. Each of the partners individually has full authority to enter into and execute contractual instruments on behalf of said partnership with the United States of America, except as follows: (state "none" or describe limitations, if any)

This authority shall remain in full force and effect until such time as the revocation of authority by any cause whatsoever has been furnished in writing to, and acknowledged by, the Contracting Officer.

(Names, Signatures and Social Security Numbers of all Partners)

NAME	SIGNATURE	SOCIAL SECURITY NO.
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

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# SCHEDULE

Stan  
Palmer

Item No.	Description of Item	Quantity	Unit	Unit Price	Amount
<u>BASE ITEMS:</u>					
0001	All Work for Goldsborough Creek Section 206 Restoration, Except for Items 0002 through 0018	1	JOB	L.S.	\$ <u>111,000.00</u>
0002	Mobilization and Demobilization	1	JOB	L.S.	\$ <u>206,000.00</u>
0003	All Work for Diversion of Water	1	JOB	L.S.	\$ <u>397,000.00</u>
0004	All Work for Demolition	1	JOB	L.S.	\$ <u>137,000.00</u>
0005	All Work for Clearing and Grubbing	1	JOB	L.S.	\$ <u>105,000.00</u>
0006	All Earthwork	1	JOB	L.S.	\$ <u>848,000.00</u>
0007	All Work for Weir Structures, Except for Item Nos. 0008 and 0009	1	JOB	L.S.	\$ <u>490,000.00</u>
0008	All work for Driving Non-Drilled Piles as Shown on Drawings, Plates S2 - S17				
0008AA	First 2000 Vertical Linear Feet (V.L.F.)	2000	VLF	\$ <u>41.00</u>	\$ <u>82,000.00</u>
0008AB	All Over 2000 V.L.F.	2200	VLF	\$ <u>28.00</u>	\$ <u>61,600.00</u>
0009	All work for Predrilling and Placing Piles as Shown on Drawings, Plates S2 - S17				
0009AA	First 800 V.L.F.	800	VLF	\$ <u>82.00</u>	\$ <u>65,600.00</u>
0009AB	All Over 800 V.L.F.	1200	VLF	\$ <u>80.00</u>	\$ <u>96,000.00</u>
0010	All Work for Bank Protection, Except for Item Nos. 0011, 0012 and 0013,	1	JOB	L.S.	\$ <u>55,000.00</u>
0011	Vegetative and Type I Riprap Bank Protection	1	JOB	L.S.	\$ <u>115,000.00</u>
0012	Type II Riprap	1	JOB	L.S.	\$ <u>250,000.00</u>
0013	Type III Riprap	1	JOB	L.S.	\$ <u>120,000.00</u>
0014	All Work for Habitat Features, Except for Item Nos. 0015, 0016 and 0017	1	JOB	L.S.	\$ <u>10,000.00</u>
0015	Rootwads	1	JOB	L.S.	\$ <u>91,000.00</u>
0016	Boulders	1	JOB	L.S.	\$ <u>15,000.00</u>
0017	Stream Cobble	1	JOB	L.S.	\$ <u>60,000.00</u>
0018	All Work for As-Built Drawings as specified in Section 01702 from preparation to final approval	1	JOB	L.S.	\$25,000.00
TOTAL					\$ <u>3,340,200.00</u>

NOTE: The dollar amount established in Item No. 0018 shall not be revised by bidders.

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<b>AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT</b>				1. CONTRACT ID CODE		PAGE OF PAGES 1	
2. AMENDMENT/MODIFICATION NO. 0001		3. EFFECTIVE DATE 02-Jan-2001		4. REQUISITION/PURCHASE REQ. NO. W68MD9-0312-2824		5. PROJECT NO.(If applicable)	
6. ISSUED BY USA ENGINEER DISTRICT, SEATTLE ATTN: CENWS-CT P.O. BOX 3755  SEATTLE, WA 98124-3755		CODE DACW67		7. ADMINISTERED BY (If other than item 6)  <b>See Item 6</b>		CODE	
8. NAME AND ADDRESS OF CONTRACTOR (No., Street, County, State and Zip Code)				X		9A. AMENDMENT OF SOLICITATION NO. DACW67-01-B-0006	
				X		9B. DATED (SEE ITEM 11) 07-Dec-2000	
						10A. MOD. OF CONTRACT/ORDER NO.	
						10B. DATED (SEE ITEM 13)	
CODE		FACILITY CODE					
<b>11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS</b>							
<input checked="" type="checkbox"/> The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offer <input type="checkbox"/> is extended, <input checked="" type="checkbox"/> is not extended.  Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended by one of the following methods: (a) By completing Items 8 and 15, and returning <u>  1  </u> copies of the document; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN THE REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.							
12. ACCOUNTING AND APPROPRIATION DATA (If required)							
<b>13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.</b>							
A.THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.							
B.THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(B).							
C.THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:							
D.OTHER (Specify type of modification and authority)							
E. IMPORTANT: Contractor <input type="checkbox"/> is not, <input type="checkbox"/> is required to sign this document and return _____ copies to the issuing office.							
14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.) PROJECT: Goldsborough Creek Section 206 Restoration  A. Section 01001 is revised to include the Washington State Dept. of Fish and Wildlife Hydraulic Project Approval and the Washington State Dept. of Ecology Water Quality Certification. B. Bid Date of 17 Jan 01, 1400 hours, remains unchanged. C. NOTICE TO BIDDERS: Bidders MUST acknowledge receipt of this amendment by number and date on bid or by telegram before the bid opening (see Number 11). Mark outside of envelope in which bid is enclosed to show amendment received.  Enclosure Revised Section 01001							
<small>Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.</small>							
15A. NAME AND TITLE OF SIGNER (Type or print)				16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print) SHARON J GONZALEZ / CONTRACT SPECIALIST			
15B. CONTRACTOR/OFFEROR  _____ (Signature of person authorized to sign)		15C. DATE SIGNED		16B. UNITED STATES OF AMERICA  BY _____ (Signature of Contracting Officer)		16C. DATE SIGNED  02-Jan-2001	

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## SECTION 00700 Contract Clauses

## CLAUSES INCORPORATED BY REFERENCE:

52.249-5000 Basis for Settlement of Proposals

MAY 1999

## CLAUSES INCORPORATED BY FULL TEXT

## 252.201-7000 CONTRACTING OFFICER'S REPRESENTATIVE (DEC 1991)

(a) "Definition. Contracting officer's representative" means an individual designated in accordance with subsection 201.602-2 of the Defense Federal Acquisition Regulation Supplement and authorized in writing by the contracting officer to perform specific technical or administrative functions.

(b) If the Contracting Officer designates a contracting officer's representative (COR), the Contractor will receive a copy of the written designation. It will specify the extent of the COR's authority to act on behalf of the contracting officer. The COR is not authorized to make any commitments or changes that will affect price, quality, quantity, delivery, or any other term or condition of the contract.

(End of clause)

## 52.202-1 DEFINITIONS. (OCT 1995)

(a) "Head of the agency" (also called "agency head") or "Secretary" means the Secretary (or Attorney General, Administrator, Governor, Chairperson, or other chief official, as appropriate) of the agency, including any deputy or assistant chief official of the agency, and the term "authorized representative" means any person, persons, or board (other than the Contracting Officer) authorized to act for the head of the agency or Secretary.

(b) Commercial component means any component that is a commercial item.

(c) Commercial item means--

(1) Any item, other than real property, that is of a type customarily used for nongovernmental purposes and that--

(i) Has been sold, leased, or licensed to the general public; or

(ii) Has been offered for sale, lease, or license to the general public;

(2) Any item that evolved from an item described in paragraph (c)(1) of this clause through advances in technology or performance and that is not yet available in the commercial marketplace, but will be available in the commercial marketplace in time to satisfy the delivery requirements under a Government solicitation;

(3) Any item that would satisfy a criterion expressed in paragraphs (c)(1) or (c)(2) of this clause, but for--

(i) Modifications of a type customarily available in the commercial marketplace; or

(ii) Minor modifications of a type not customarily available in the commercial marketplace made to meet Federal Government requirements. "Minor" modifications means modifications that do not significantly alter the nongovernmental function or essential physical characteristics of an item or component, or change the purpose of a process. Factors to be considered in determining whether a modification is minor include the value and size of the

modification and the comparative value and size of the final product. Dollar values and percentages may be used as guideposts, but are not conclusive evidence that a modification is minor;

(4) Any combination of items meeting the requirements of paragraphs (c)(1), (2), (3), or (5) of this clause that are of a type customarily combined and sold in combination to the general public;

(5) Installation services, maintenance services, repair services, training services, and other services if such services are procured for support of an item referred to in paragraphs (c)(1), (2), (3), or (4) of this clause, and if the source of such services--

(i) Offers such services to the general public and the Federal Government contemporaneously and under similar terms and conditions; and

(ii) Offers to use the same work force for providing the Federal Government with such services as the source uses for providing such services to the general public;

(6) Services of a type offered and sold competitively in substantial quantities in the commercial marketplace based on established catalog or market prices for specific tasks performed under standard commercial terms and conditions. This does not include services that are sold based on hourly rates without an established catalog or market price for a specific service performed;

(7) Any item, combination of items, or service referred to in subparagraphs (c)(1) through (c)(6), notwithstanding the fact that the item, combination of items, or service is transferred between or among separate divisions, subsidiaries, or affiliates of a Contractor; or

(8) A nondevelopmental item, if the procuring agency determines the item was developed exclusively at private expense and sold in substantial quantities, on a competitive basis, to multiple State and local Governments.

(d) Component means any item supplied to the Federal Government as part of an end item or of another component.

(e) Nondevelopmental item means--

(1) Any previously developed item of supply used exclusively for governmental purposes by a Federal agency, a State or local government, or a foreign government with which the United States has a mutual defense cooperation agreement;

(2) Any item described in paragraph (e)(1) of this definition that requires only minor modification or modifications of a type customarily available in the commercial marketplace in order to meet the requirements of the procuring department or agency; or

(3) Any item of supply being produced that does not meet the requirements of paragraph (e)(1) or (e)(2) solely because the item is not yet in use.

(f) "Contracting Officer" means a person with the authority to enter into, administer, and/or terminate contracts and make related determinations and findings. The term includes certain authorized representatives of the Contracting Officer acting within the limits of their authority as delegated by the Contracting Officer.

(g) Except as otherwise provided in this contract, the term "subcontracts" includes, but is not limited to, purchase orders and changes and modifications to purchase orders under this contract.

#### 52.203-3 GRATUITIES (APR 1984)

(a) The right of the Contractor to proceed may be terminated by written notice if, after notice and hearing, the

agency head or a designee determines that the Contractor, its agent, or another representative--

(1) Offered or gave a gratuity (e.g., an entertainment or gift) to an officer, official, or employee of the Government; and

(2) Intended, by the gratuity, to obtain a contract or favorable treatment under a contract.

(b) The facts supporting this determination may be reviewed by any court having lawful jurisdiction.

(c) If this contract is terminated under paragraph (a) of this clause, the Government is entitled--

(1) To pursue the same remedies as in a breach of the contract; and

(2) In addition to any other damages provided by law, to exemplary damages of not less than 3 nor more than 10 times the cost incurred by the Contractor in giving gratuities to the person concerned, as determined by the agency head or a designee. (This subparagraph (c)(2) is applicable only if this contract uses money appropriated to the Department of Defense.)

(d) The rights and remedies of the Government provided in this clause shall not be exclusive and are in addition to any other rights and remedies provided by law or under this contract.

(End of clause)

#### 52.203-5 COVENANT AGAINST CONTINGENT FEES (APR 1984)

(a) The Contractor warrants that no person or agency has been employed or retained to solicit or obtain this contract upon an agreement or understanding for a contingent fee, except a bona fide employee or agency. For breach or violation of this warranty, the Government shall have the right to annul this contract without liability or, in its discretion, to deduct from the contract price or consideration, or otherwise recover, the full amount of the contingent fee.

(b) "Bona fide agency," as used in this clause, means an established commercial or selling agency, maintained by a contractor for the purpose of securing business, that neither exerts nor proposes to exert improper influence to solicit or obtain Government contracts nor holds itself out as being able to obtain any Government contract or contracts through improper influence.

"Bona fide employee," as used in this clause, means a person, employed by a contractor and subject to the contractor's supervision and control as to time, place, and manner of performance, who neither exerts nor proposes to exert improper influence to solicit or obtain Government contracts nor holds out as being able to obtain any Government contract or contracts through improper influence.

"Contingent fee," as used in this clause, means any commission, percentage, brokerage, or other fee that is contingent upon the success that a person or concern has in securing a Government contract.

"Improper influence," as used in this clause, means any influence that induces or tends to induce a Government employee or officer to give consideration or to act regarding a Government contract on any basis other than the merits of the matter.

(End of clause)

#### 52.203-7 ANTI-KICKBACK PROCEDURES. (JUL 1995)

(a) Definitions.

"Kickback," as used in this clause, means any money, fee, commission, credit, gift, gratuity, thing of value, or

compensation of any kind which is provided, directly or indirectly, to any prime Contractor, prime Contractor employee, subcontractor, or subcontractor employee for the purpose of improperly obtaining or rewarding favorable treatment in connection with a prime contract or in connection with a subcontract relating to a prime contract.

"Person," as used in this clause, means a corporation, partnership, business association of any kind, trust, joint-stock company, or individual.

"Prime contract," as used in this clause, means a contract or contractual action entered into by the United States for the purpose of obtaining supplies, materials, equipment, or services of any kind.

"Prime Contractor," as used in this clause, means a person who has entered into a prime contract with the United States.

"Prime Contractor employee," as used in this clause, means any officer, partner, employee, or agent of a prime Contractor.

"Subcontract," as used in this clause, means a contract or contractual action entered into by a prime Contractor or subcontractor for the purpose of obtaining supplies, materials, equipment, or services of any kind under a prime contract.

"Subcontractor," as used in this clause, (1) means any person, other than the prime Contractor, who offers to furnish or furnishes any supplies, materials, equipment, or services of any kind under a prime contract or a subcontract entered into in connection with such prime contract, and (2) includes any person who offers to furnish or furnishes general supplies to the prime Contractor or a higher tier subcontractor.

"Subcontractor employee," as used in this clause, means any officer, partner, employee, or agent of a subcontractor.

(b) The Anti-Kickback Act of 1986 (41 U.S.C. 51-58) (the Act), prohibits any person from -

(1) Providing or attempting to provide or offering to provide any kickback;

(2) Soliciting, accepting, or attempting to accept any kickback; or

(3) Including, directly or indirectly, the amount of any kickback in the contract price charged by a prime Contractor to the United States or in the contract price charged by a subcontractor to a prime Contractor or higher tier subcontractor.

(c)(1) The Contractor shall have in place and follow reasonable procedures designed to prevent and detect possible violations described in paragraph (b) of this clause in its own operations and direct business relationships.

(2) When the Contractor has reasonable grounds to believe that a violation described in paragraph (b) of this clause may have occurred, the Contractor shall promptly report in writing the possible violation. Such reports shall be made to the inspector general of the contracting agency, the head of the contracting agency if the agency does not have an inspector general, or the Department of Justice.

(3) The Contractor shall cooperate fully with any Federal agency investigating a possible violation described in paragraph (b) of this clause.

(4) The Contracting Officer may (i) offset the amount of the kickback against any monies owed by the United States under the prime contract and/or (ii) direct that the Prime Contractor withhold, from sums owed a subcontractor under the prime contract, the amount of any kickback. The Contracting Officer may order the monies withheld under subdivision (c)(4)(ii) of this clause be paid over to the Government unless the Government has already offset those monies under subdivision (c)(4)(i) of this clause. In either case, the Prime Contractor shall notify the Contracting Officer when the monies are withheld.

(5) The Contractor agrees to incorporate the substance of this clause, including this subparagraph (c)(5) but excepting subparagraph (c)(1), in all subcontracts under this contract which exceed \$100,000.

#### 52.203-8 CANCELLATION, RESCISSION, AND RECOVERY OF FUNDS FOR ILLEGAL OR IMPROPER ACTIVITY (JAN 1997)

(a) If the Government receives information that a contractor or a person has engaged in conduct constituting a violation of subsection (a), (b), (c), or (d) of Section 27 of the Office of Federal Procurement Policy Act (41 U.S.C. 423) (the Act), as amended by section 4304 of the 1996 National Defense Authorization Act for Fiscal Year 1996 (Pub. L. 104-106), the Government may--

(1) Cancel the solicitation, if the contract has not yet been awarded or issued; or

(2) Rescind the contract with respect to which--

(i) The Contractor or someone acting for the Contractor has been convicted for an offense where the conduct constitutes a violation of subsection 27 (a) or (b) of the Act for the purpose of either--

(A) Exchanging the information covered by such subsections for anything of value; or

(B) Obtaining or giving anyone a competitive advantage in the award of a Federal agency procurement contract; or

(ii) The head of the contracting activity has determined, based upon a preponderance of the evidence, that the Contractor or someone acting for the Contractor has engaged in conduct constituting an offense punishable under subsections 27(e)(1) of the Act.

(b) If the Government rescinds the contract under paragraph (a) of this clause, the Government is entitled to recover, in addition to any penalty prescribed by law, the amount expended under the contract.

(c) The rights and remedies of the Government specified herein are not exclusive, and are in addition to any other rights and remedies provided by law, regulation, or under this contract.

#### 52.203-10 PRICE OR FEE ADJUSTMENT FOR ILLEGAL OR IMPROPER ACTIVITY (JAN 1997)

(a) The Government, at its election, may reduce the price of a fixed-price type contract and the total cost and fee under a cost-type contract by the amount of profit or fee determined as set forth in paragraph (b) of this clause if the head of the contracting activity or designee determines that there was a violation of subsection 27 (a), (b), or (c) of the Office of Federal Procurement Policy Act, as amended (41 U.S.C. 423), as implemented in section 3.104 of the Federal Acquisition Regulation.

(b) The price or fee reduction referred to in paragraph (a) of this clause shall be--

(1) For cost-plus-fixed-fee contracts, the amount of the fee specified in the contract at the time of award;

(2) For cost-plus-incentive-fee contracts, the target fee specified in the contract at the time of award, notwithstanding any minimum fee or "fee floor" specified in the contract;

(3) For cost-plus-award-fee contracts--

(i) The base fee established in the contract at the time of contract award;

(ii) If no base fee is specified in the contract, 30 percent of the amount of each award fee otherwise payable to the Contractor for each award fee evaluation period or at each award fee determination point.

(4) For fixed-price-incentive contracts, the Government may--

(i) Reduce the contract target price and contract target profit both by an amount equal to the initial target profit specified in the contract at the time of contract award; or

(ii) If an immediate adjustment to the contract target price and contract target profit would have a significant adverse impact on the incentive price revision relationship under the contract, or adversely affect the contract financing provisions, the Contracting Officer may defer such adjustment until establishment of the total final price of the contract. The total final price established in accordance with the incentive price revision provisions of the contract shall be reduced by an amount equal to the initial target profit specified in the contract at the time of contract award and such reduced price shall be the total final contract price.

(5) For firm-fixed-price contracts, by 10 percent of the initial contract price or a profit amount determined by the Contracting Officer from records or documents in existence prior to the date of the contract award.

(c) The Government may, at its election, reduce a prime contractor's price or fee in accordance with the procedures of paragraph (b) of this clause for violations of the Act by its subcontractors by an amount not to exceed the amount of profit or fee reflected in the subcontract at the time the subcontract was first definitively priced.

(d) In addition to the remedies in paragraphs (a) and (c) of this clause, the Government may terminate this contract for default. The rights and remedies of the Government specified herein are not exclusive, and are in addition to any other rights and remedies provided by law or under this contract.

(End of clause)

## 52.203-12 LIMITATION ON PAYMENTS TO INFLUENCE CERTAIN FEDERAL TRANSACTIONS (JUN 1997)

(a) Definitions.

"Agency," as used in this clause, means executive agency as defined in 2.101.

"Covered Federal action," as used in this clause, means any of the following Federal actions:

(1) The awarding of any Federal contract.

(2) The making of any Federal grant.

(3) The making of any Federal loan.

(4) The entering into of any cooperative agreement.

(5) The extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

"Indian tribe" and "tribal organization," as used in this clause, have the meaning provided in section 4 of the Indian Self-Determination and Education Assistance Act (25 U.S.C. 450B) and include Alaskan Natives.

"Influencing or attempting to influence," as used in this clause, means making, with the intent to influence, any communication to or appearance before an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with any covered Federal action.



"Local government," as used in this clause, means a unit of government in a State and, if chartered, established, or otherwise recognized by a State for the performance of a governmental duty, including a local public authority, a special district, an intrastate district, a council of governments, a sponsor group representative organization, and any other instrumentality of a local government.

"Officer or employee of an agency," as used in this clause, includes the following individuals who are employed by an agency:

- (1) An individual who is appointed to a position in the Government under title 5, United States Code, including a position under a temporary appointment.
- (2) A member of the uniformed services, as defined in subsection 101(3), title 37, United States Code.
- (3) A special Government employee, as defined in section 202, title 18, United States Code.
- (4) An individual who is a member of a Federal advisory committee, as defined by the Federal Advisory Committee Act, title 5, United States Code, appendix 2.

"Person," as used in this clause, means an individual, corporation, company, association, authority, firm, partnership, society, State, and local government, regardless of whether such entity is operated for profit, or not for profit. This term excludes an Indian tribe, tribal organization, or any other Indian organization with respect to expenditures specifically permitted by other Federal law.

"Reasonable compensation," as used in this clause, means, with respect to a regularly employed officer or employee of any person, compensation that is consistent with the normal compensation for such officer or employee for work that is not furnished to, not funded by, or not furnished in cooperation with the Federal Government.

"Reasonable payment," as used in this clause, means, with respect to professional and other technical services, a payment in an amount that is consistent with the amount normally paid for such services in the private sector.

"Recipient," as used in this clause, includes the Contractor and all subcontractors. This term excludes an Indian tribe, tribal organization, or any other Indian organization with respect to expenditures specifically permitted by other Federal law.

"Regularly employed," as used in this clause, means, with respect to an officer or employee of a person requesting or receiving a Federal contract, an officer or employee who is employed by such person for at least 130 working days within 1 year immediately preceding the date of the submission that initiates agency consideration of such person for receipt of such contract. An officer or employee who is employed by such person for less than 130 working days within 1 year immediately preceding the date of the submission that initiates agency consideration of such person shall be considered to be regularly employed as soon as he or she is employed by such person for 130 working days.

"State," as used in this clause, means a State of the United States, the District of Columbia, the Commonwealth of Puerto Rico, a territory or possession of the United States, an agency or instrumentality of a State, and multi-State, regional, or interstate entity having governmental duties and powers.

(b) Prohibitions.

(1) Section 1352 of title 31, United States Code, among other things, prohibits a recipient of a Federal contract, grant, loan, or cooperative agreement from using appropriated funds to pay any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with any of the following covered Federal actions: the awarding of any Federal contract; the making of any Federal grant; the making of any Federal loan; the entering into of any cooperative agreement; or the modification of any Federal contract, grant, loan, or cooperative agreement.

(2) The Act also requires Contractors to furnish a disclosure if any funds other than Federal appropriated funds (including profit or fee received under a covered Federal transaction) have been paid, or will be paid, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with a Federal contract, grant, loan, or cooperative agreement.

(3) The prohibitions of the Act do not apply under the following conditions:

(i) Agency and legislative liaison by own employees.

(A) The prohibition on the use of appropriated funds, in subparagraph (b)(1) of this clause, does not apply in the case of a payment of reasonable compensation made to an officer or employee of a person requesting or receiving a covered Federal action if the payment is for agency and legislative liaison activities not directly related to a covered Federal action.

(B) For purposes of subdivision (b)(3)(i)(A) of this clause, providing any information specifically requested by an agency or Congress is permitted at any time.

(C) The following agency and legislative liaison activities are permitted at any time where they are not related to a specific solicitation for any covered Federal action:

(1) Discussing with an agency the qualities and characteristics (including individual demonstrations) of the person's products or services, conditions or terms of sale, and service capabilities.

(2) Technical discussions and other activities regarding the application or adaptation of the person's products or services for an agency's use.

(D) The following agency and legislative liaison activities are permitted where they are prior to formal solicitation of any covered Federal action--

(1) Providing any information not specifically requested but necessary for an agency to make an informed decision about initiation of a covered Federal action;

(2) Technical discussions regarding the preparation of an unsolicited proposal prior to its official submission; and

(3) Capability presentations by persons seeking awards from an agency pursuant to the provisions of the Small Business Act, as amended by Pub. L. 95-507, and subsequent amendments.

(E) Only those services expressly authorized by subdivision (b)(3)(i)(A) of this clause are permitted under this clause.

(ii) Professional and technical services.

(A) The prohibition on the use of appropriated funds, in subparagraph (b)(1) of this clause, does not apply in the case of--

(1) A payment of reasonable compensation made to an officer or employee of a person requesting or receiving a covered Federal action or an extension, continuation, renewal, amendment, or modification of a covered Federal action, if payment is for professional or technical services rendered directly in the preparation, submission, or negotiation of any bid, proposal, or application for that Federal action or for meeting requirements imposed by or pursuant to law as a condition for receiving that Federal action.

(2) Any reasonable payment to a person, other than an officer or employee of a person requesting or receiving a covered Federal action or an extension, continuation, renewal, amendment, or modification of a covered Federal

action if the payment is for professional or technical services rendered directly in the preparation, submission, or negotiation of any bid, proposal, or application for that Federal action or for meeting requirements imposed by or pursuant to law as a condition for receiving that Federal action. Persons other than officers or employees of a person requesting or receiving a covered Federal action include consultants and trade associations.

(B) For purposes of subdivision (b)(3)(ii)(A) of this clause, "professional and technical services" shall be limited to advice and analysis directly applying any professional or technical discipline. For example, drafting of a legal document accompanying a bid or proposal by a lawyer is allowable. Similarly, technical advice provided by an engineer on the performance or operational capability of a piece of equipment rendered directly in the negotiation of a contract is allowable. However, communications with the intent to influence made by a professional (such as a licensed lawyer) or a technical person (such as a licensed accountant) are not allowable under this section unless they provide advice and analysis directly applying their professional or technical expertise and unless the advice or analysis is rendered directly and solely in the preparation, submission or negotiation of a covered Federal action. Thus, for example, communications with the intent to influence made by a lawyer that do not provide legal advice or analysis directly and solely related to the legal aspects of his or her client's proposal, but generally advocate one proposal over another are not allowable under this section because the lawyer is not providing professional legal services. Similarly, communications with the intent to influence made by an engineer providing an engineering analysis prior to the preparation or submission of a bid or proposal are not allowable under this section since the engineer is providing technical services but not directly in the preparation, submission or negotiation of a covered Federal action.

(C) Requirements imposed by or pursuant to law as a condition for receiving a covered Federal award include those required by law or regulation and any other requirements in the actual award documents.

(D) Only those services expressly authorized by subdivisions (b)(3)(ii)(A)(1) and (2) of this clause are permitted under this clause.

(E) The reporting requirements of FAR 3.803(a) shall not apply with respect to payments of reasonable compensation made to regularly employed officers or employees of a person.

(c) Disclosure.

(1) The Contractor who requests or receives from an agency a Federal contract shall file with that agency a disclosure form, OMB standard form LLL, Disclosure of Lobbying Activities, if such person has made or has agreed to make any payment using nonappropriated funds (to include profits from any covered Federal action), which would be prohibited under subparagraph (b)(1) of this clause, if paid for with appropriated funds.

(2) The Contractor shall file a disclosure form at the end of each calendar quarter in which there occurs any event that materially affects the accuracy of the information contained in any disclosure form previously filed by such person under subparagraph (c)(1) of this clause. An event that materially affects the accuracy of the information reported includes--

(i) A cumulative increase of \$25,000 or more in the amount paid or expected to be paid for influencing or attempting to influence a covered Federal action; or

(ii) A change in the person(s) or individual(s) influencing or attempting to influence a covered Federal action; or

(iii) A change in the officer(s), employee(s), or Member(s) contacted to influence or attempt to influence a covered Federal action.

(3) The Contractor shall require the submittal of a certification, and if required, a disclosure form by any person who requests or receives any subcontract exceeding \$100,000 under the Federal contract.

(4) All subcontractor disclosure forms (but not certifications) shall be forwarded from tier to tier until received by the prime Contractor. The prime Contractor shall submit all disclosures to the Contracting Officer at the end of the

calendar quarter in which the disclosure form is submitted by the subcontractor. Each subcontractor certification shall be retained in the subcontract file of the awarding Contractor.

(d) Agreement. The Contractor agrees not to make any payment prohibited by this clause.

(e) Penalties.

(1) Any person who makes an expenditure prohibited under paragraph (a) of this clause or who fails to file or amend the disclosure form to be filed or amended by paragraph (b) of this clause shall be subject to civil penalties as provided for by 31 U.S.C. 1352. An imposition of a civil penalty does not prevent the Government from seeking any other remedy that may be applicable.

(2) Contractors may rely without liability on the representation made by their subcontractors in the certification and disclosure form.

(f) Cost allowability. Nothing in this clause makes allowable or reasonable any costs which would otherwise be unallowable or unreasonable. Conversely, costs made specifically unallowable by the requirements in this clause will not be made allowable under any other provision.

(End of clause)

#### 252.203-7001 PROHIBITION ON PERSONS CONVICTED OF FRAUD OR OTHER DEFENSE-CONTRACT-RELATED FELONIES (MAR 1999)

(a) Definitions. As used in this clause—

(1) “Arising out of a contract with the DoD” means any act in connection with—

(i) Attempting to obtain;

(ii) Obtaining, or

(iii) Performing a contract or first-tier subcontract of any agency, department, or component of the Department of Defense (DoD).

(2) “Conviction of fraud or any other felony” means any conviction for fraud or a felony in violation of state or Federal criminal statutes, whether entered on a verdict or plea, including a plea of *nolo contendere*, for which sentence has been imposed.

(3) “Date of conviction” means the date judgment was entered against the individual.

(b) Any individual who is convicted after September 29, 1988, of fraud or any other felony arising out of a contract with the DoD is prohibited from serving--

(1) In a management or supervisory capacity on any DoD contract or first-tier subcontract;

(2) On the board of directors of any DoD contractor or first-tier subcontractor;

(3) As a consultant, agent, or representative for any DoD contractor or first-tier subcontractor; or

(4) In any other capacity with the authority to influence, advise, or control the decisions of any DoD contractor or subcontractor with regard to any DoD contract or first-tier subcontract.

(c) Unless waived, the prohibition in paragraph (b) of this clause applies for not less than 5 years from the date of conviction.

(d) 10 U.S.C. 2408 provides that a defense contractor or first-tier subcontractor shall be subject to a criminal penalty of not more than \$500,000 if convicted of knowingly—

- (1) Employing a person under a prohibition specified in paragraph (b) of this clause; or
- (2) Allowing such a person to serve on the board of directors of the contractor or first-tier subcontractor.

(e) In addition to the criminal penalties contained in 10 U.S.C. 2408, the Government may consider other available remedies, such as—

- (1) Suspension or debarment;
- (2) Cancellation of the contract at no cost to the Government; or
- (3) Termination of the contract for default.

(f) The Contractor may submit written requests for waiver of the prohibition in paragraph (b) of this clause to the Contracting Officer. Requests shall clearly identify—

- (1) The person involved;
- (2) The nature of the conviction and resultant sentence or punishment imposed;
- (3) The reasons for the requested waiver; and
- (4) An explanation of why a waiver is in the interest of national security.

(g) The Contractor agrees to include the substance of this clause, appropriately modified to reflect the identity and relationship of the parties, in all first-tier subcontracts exceeding the simplified acquisition threshold in Part 2 of the Federal Acquisition Regulation, except those for commercial items or components.

(h) Pursuant to 10 U.S.C. 2408(c), defense contractors and subcontractors may obtain information as to whether a particular person has been convicted of fraud or any other felony arising out of a contract with the DoD by contacting The Office of Justice Programs, The Denial of Federal Benefits Office, U.S. Department of Justice, telephone (202) 616-3507.

(End of clause)

#### 52.204-4 PRINTING/COPYING DOUBLE-SIDED ON RECYCLED PAPER (AUG 2000)

(a) Definitions. As used in this clause--

Postconsumer material means a material or finished product that has served its intended use and has been discarded for disposal or recovery, having completed its life as a consumer item. Postconsumer material is a part of the broader category of "recovered material." For paper and paper products, postconsumer material means "postconsumer fiber" defined by the U.S. Environmental Protection Agency (EPA) as--

- (1) Paper, paperboard, and fibrous materials from retail stores, office buildings, homes, and so forth, after they have passed through their end-usage as a consumer item, including: used corrugated boxes; old newspapers; old magazines; mixed waste paper; tabulating cards; and used cordage; or

- (2) All paper, paperboard, and fibrous materials that enter and are collected from municipal solid waste; but not
- (3) Fiber derived from printers' over-runs, converters' scrap, and over-issue publications.

Printed or copied double-sided means printing or reproducing a document so that information is on both sides of a sheet of paper.

Recovered material, for paper and paper products, is defined by EPA in its Comprehensive Procurement Guideline as "recovered fiber" and means the following materials:

- (1) Postconsumer fiber; and
- (2) Manufacturing wastes such as--
  - (i) Dry paper and paperboard waste generated after completion of the papermaking process (that is, those manufacturing operations up to and including the cutting and trimming of the paper machine reel into smaller rolls or rough sheets) including: envelope cuttings, bindery trimmings, and other paper and paperboard waste resulting from printing, cutting, forming, and other converting operations; bag, box, and carton manufacturing wastes; and butt rolls, mill wrappers, and rejected unused stock; and
  - (ii) Repulped finished paper and paperboard from obsolete inventories of paper and paperboard manufacturers, merchants, wholesalers, dealers, printers, converters, or others.
- (b) In accordance with Section 101 of Executive Order 13101 of September 14, 1998, Greening the Government through Waste Prevention, Recycling, and Federal Acquisition, the Contractor is encouraged to submit paper documents, such as offers, letters, or reports, that are printed or copied double-sided on recycled paper that meet minimum content standards specified in Section 505 of Executive Order 13101, when not using electronic commerce methods to submit information or data to the Government.
- (c) If the Contractor cannot purchase high-speed copier paper, offset paper, forms bond, computer printout paper, carbonless paper, file folders, white wove envelopes, writing and office paper, book paper, cotton fiber paper, and cover stock meeting the 30 percent postconsumer material standard for use in submitting paper documents to the Government, it should use paper containing no less than 20 percent postconsumer material. This lesser standard should be used only when paper meeting the 30 percent postconsumer material standard is not obtainable at a reasonable price or does not meet reasonable performance standards.

(End of clause)

#### 252.204-7003 CONTROL OF GOVERNMENT PERSONNEL WORK PRODUCT (APR 1992)

The Contractor's procedures for protecting against unauthorized disclosure of information shall not require Department of Defense employees or members of the Armed Forces to relinquish control of their work products, whether classified or not, to the contractor.

(End of clause)

#### 52.209-6 PROTECTING THE GOVERNMENT'S INTEREST WHEN SUBCONTRACTING WITH CONTRACTORS DEBARRED, SUSPENDED, OR PROPOSED FOR DEBARMENT (JUL 1995)

- (a) The Government suspends or debar Contractors to protect the Government's interests. The Contractor shall not enter into any subcontract in excess of the \$25,000 with a Contractor that is debarred, suspended, or proposed for debarment unless there is a compelling reason to do so.
- (b) The Contractor shall require each proposed first-tier subcontractor, whose subcontract will exceed \$25,000, to

disclose to the Contractor, in writing, whether as of the time of award of the subcontract, the subcontractor, or its principles, is or is not debarred, suspended, or proposed for debarment by the Federal Government.

(c) A corporate officer or a designee of the Contractor shall notify the Contracting Officer, in writing, before entering into a subcontract with a party that is debarred, suspended, or proposed for debarment (see FAR 9.404 for information on the List of Parties Excluded from Federal Procurement and Nonprocurement Programs). The notice must include the following:

(1) The name of the subcontractor.

(2) The Contractor's knowledge of the reasons for the subcontractor being on the List of Parties Excluded from Federal Procurement and Nonprocurement Programs.

(3) The compelling reason(s) for doing business with the subcontractor notwithstanding its inclusion on the List of Parties Excluded from Federal Procurement and Nonprocurement Programs.

(4) The systems and procedures the Contractor has established to ensure that it is fully protecting the Government's interests when dealing with such subcontractor in view of the specific basis for the party's debarment, suspension, or proposed debarment.

(End of clause)

#### 252.209-7004 SUBCONTRACTING WITH FIRMS THAT ARE OWNED OR CONTROLLED BY THE GOVERNMENT OF A TERRORIST COUNTRY (MAR 1998)

(a) Unless the Government determines that there is a compelling reason to do so, the Contractor shall not enter into any subcontract in excess of \$25,000 with a firm, or subsidiary of a firm, that is identified, on the List of Parties Excluded from Federal Procurement and Nonprocurement Programs, as being ineligible for the award of Defense contracts or subcontracts because it is owned or controlled by the government of a terrorist country.

(b) A corporate officer or a designee of the Contractor shall notify the Contracting Officer, in writing, before entering into a subcontract with a party that is identified, on the List of Parties Excluded from Federal Procurement and Nonprocurement Programs, as being ineligible for the award of Defense contracts or subcontracts because it is owned or controlled by the government of a terrorist country. The notice must include the name of the proposed subcontractor notwithstanding its inclusion on the List of Parties Excluded From Federal Procurement and Nonprocurement Programs.

#### 52.211-18 VARIATION IN ESTIMATED QUANTITY (APR 1984)

If the quantity of a unit-priced item in this contract is an estimated quantity and the actual quantity of the unit-priced item varies more than 15 percent above or below the estimated quantity, an equitable adjustment in the contract price shall be made upon demand of either party. The equitable adjustment shall be based upon any increase or decrease in costs due solely to the variation above 115 percent or below 85 percent of the estimated quantity. If the quantity variation is such as to cause an increase in the time necessary for completion, the Contractor may request, in writing, an extension of time, to be received by the Contracting Officer within 10 days from the beginning of the delay, or within such further period as may be granted by the Contracting Officer before the date of final settlement of the contract. Upon the receipt of a written request for an extension, the Contracting Officer shall ascertain the facts and make an adjustment for extending the completion date as, in the judgement of the Contracting Officer, is justified.

#### 52.214-26 AUDIT AND RECORDS--SEALED BIDDING. (OCT 1997)

(a) As used in this clause, records includes books, documents, accounting procedures and practices, and other data, regardless of type and regardless of whether such items are in written form, in the form of computer data, or in any other form.

(b) Cost or pricing data. If the Contractor has been required to submit cost or pricing data in connection with the pricing of any modification to this contract, the Contracting Officer, or an authorized representative of the Contracting Officer, in order to evaluate the accuracy, completeness, and currency of the cost or pricing data, shall have the right to examine and audit all of the Contractor's records, including computations and projections, related to--

(1) The proposal for the modification;

(2) The discussions conducted on the proposal(s), including those related to negotiating;

(3) Pricing of the modification; or

(4) Performance of the modification.

(c) Comptroller General. In the case of pricing any modification, the Comptroller General of the United States, or an authorized representative, shall have the same rights as specified in paragraph (b) of this clause.

(d) Availability. The Contractor shall make available at its office at all reasonable times the materials described in reproduction, until 3 years after final payment under this contract, or for any other period specified in Subpart 4.7 of the Federal Acquisition Regulation (FAR). FAR Subpart 4.7, Contractor Records Retention, in effect on the date of this contract, is incorporated by reference in its entirety and made a part of this contract.

(1) If this contract is completely or partially terminated, the records relating to the work terminated shall be made available for 3 years after any resulting final termination settlement.

(2) Records pertaining to appeals under the Disputes clause or to litigation or the settlement of claims arising under or relating to the performance of this contract shall be made available until disposition of such appeals, litigation, or claims.

(e) The Contractor shall insert a clause containing all the provisions of this clause, including this paragraph (e), in all subcontracts expected to exceed the threshold in FAR 15.403-4(a)(1) for submission of cost or pricing data.

#### 52.214-27 PRICE REDUCTION FOR DEFECTIVE COST OR PRICING DATA - MODIFICATIONS - SEALED BIDDING. (OCT 1997)

(a) This clause shall become operative only for any modification to this contract involving aggregate increases and/or decreases in costs, plus applicable profits, expected to exceed the threshold for the submission of cost or pricing data at FAR 15.403-4(a)(1), except that this clause does not apply to a modification if an exception under FAR 15.403-1(b) applies.

(1) Based on adequate price competition;

(2) Based on established catalog or market prices of commercial items sold in substantial quantities to the general public; or

(3) Set by law or regulation.

(b) If any price, including profit, negotiated in connection with any modification under this clause, was increased by any significant amount because



(1) the Contractor or a subcontractor furnished cost or pricing data that were not complete, accurate, and current as certified in its Certificate of Current Cost or Pricing Data;

(2) a subcontractor or prospective subcontractor furnished the Contractor cost or pricing data that were not complete, accurate, and current as certified in the Contractor's Certificate of Current Cost or Pricing Data; or

(3) any of these parties furnished data of any description that were not accurate, the price shall be reduced accordingly and the contract shall be modified to reflect the reduction. This right to a price reduction is limited to that resulting from defects in data relating to modifications for which this clause becomes operative under paragraph (a) above.

(c) Any reduction in the contract price under paragraph (b) above due to defective data from a prospective subcontractor that was not subsequently awarded the subcontract shall be limited to the amount, plus applicable overhead and profit markup, by which:

(1) the actual subcontract; or

(2) the actual cost to the Contractor, if there was no subcontract, was less than the prospective subcontract cost estimate submitted by the Contractor; provided, that the actual subcontract price was not itself affected by defective cost or pricing data.

(d) If the Contracting Officer determines under paragraph (b) of this clause that a price or cost reduction should be made:

(1) the Contractor agrees not to raise the following matters as a defense:

(i) The Contractor or subcontractor was a sole source supplier or otherwise was in a superior bargaining position and thus the price of the contract would not have been modified even if accurate, complete, and current cost or pricing data had been submitted;

(ii) The Contracting Officer should have known that the cost or pricing data in issue were defective even though the Contractor or subcontractor took no affirmative action to bring the character of the data to the attention of the Contracting Officer;

(iii) The contract was based on an agreement about the total cost of the contract and there was no agreement about the cost of each item procured under the contract; or

(iv) The Contractor or subcontractor did not submit a Certificate of Current Cost or Pricing Data.

(2) Except as prohibited by subdivision (d)(2)(ii) of this clause:

(i) an offset in an amount determined appropriate by the Contracting Officer based upon the facts shall be allowed against the amount of a contract price reduction if:

(A) The Contractor certifies to the Contracting Officer that, to the best of the Contractor's knowledge and belief, the Contractor is entitled to the offset in the amount requested; and

(B) The Contractor proves that the cost or pricing data were available before the date of agreement on the price of the contract (or price of the modification) and that the data were not submitted before such date.

(ii) An offset shall not be allowed if:

(A) The understated data was known by the Contractor to be understated when the Certificate of Current Cost or Pricing Data was signed; or (B) The Government proves that the facts demonstrate that the contract price would not

have increased in the amount to be offset even if the available data had been submitted before the date of agreement on price.

(e) If any reduction in the contract price under this clause reduces the price of items for which payment was made prior to the date of the modification reflecting the price reduction, the Contractor shall be liable to and shall pay the United States at the time such overpayment is repaid:

(1) Simple interest on the amount of such overpayment to be computed from the date(s) of overpayment to the Contractor to the date the Government is repaid by the Contractor at the applicable underpayment rate effective for each quarter prescribed by the Secretary of the Treasury under 26 U.S.C. 6621(a)(2); and

(2) A penalty equal to the amount of the overpayment, if the Contractor or subcontractor knowingly submitted cost or pricing data which were incomplete, inaccurate, or noncurrent.

#### 52.214-28 SUBCONTRACTOR COST OR PRICING DATA - MODIFICATIONS - SEALED BIDDING. (OCT 1997)

(a) The requirements of paragraphs (b) and (c) of this clause shall:

(1) become operative only for any modification to this contract involving aggregate increases and/or decreases in costs, plus applicable profits, expected to exceed the threshold for submission of cost or pricing data at (FAR) 48 CFR 15.403-4(a)(1); and

(2) be limited to such modifications.

(b) Before awarding any subcontract expected to exceed the threshold for submission of cost or pricing data at FAR 15.403-4(a)(1), on the date of agreement on price or the date of award, whichever is later; or before pricing any subcontract modifications involving aggregate increases and/or decreases in costs, plus applicable profits, expected to exceed the threshold for submission of cost or pricing data at FAR 15.403-4(a)(1), the Contractor shall require the subcontractor to submit cost or pricing data (actually or by specific identification in writing), unless an exception under FAR 15.403-1(b) applies.

(1) Based on adequate price competition;

(2) Based on established catalog or market prices of commercial items sold in substantial quantities to the general public; or

(3) Set by law or regulation.

(c) The Contractor shall require the subcontractor to certify in substantially the form prescribed in subsection 15.406-2 of the Federal Acquisition Regulation that, to the best of its knowledge and belief, the data submitted under paragraph (b) above were accurate, complete, and current as of the date of agreement on the negotiated price of the subcontract or subcontract modification.

(d) The Contractor shall insert the substance of this clause, including this paragraph (d), in each subcontract that, when entered into, exceeds the threshold for submission of cost or pricing data at FAR 15.403-4(a)(1).

#### 52.214-29 ORDER OF PRECEDENCE--SEALED BIDDING (JAN 1986)

Any inconsistency in this solicitation or contract shall be resolved by giving precedence in the following order: (a) the Schedule (excluding the specifications); (b) representations and other instructions; (c) contract clauses; (d) other

documents, exhibits, and attachments; and (e) the specifications.

(End of clause)

#### 52.219-8 UTILIZATION OF SMALL BUSINESS CONCERNS (OCT 2000)

(a) It is the policy of the United States that small business concerns, veteran-owned small business concerns, service-disabled veteran-owned small business concerns, HUBZone small business concerns, small disadvantaged business concerns, and women-owned small business concerns shall have the maximum practicable opportunity to participate in performing contracts let by any Federal agency, including contracts and subcontracts for subsystems, assemblies, components, and related services for major systems. It is further the policy of the United States that its prime contractors establish procedures to ensure the timely payment of amounts due pursuant to the terms of their subcontracts with small business concerns, veteran-owned small business concerns, service-disabled veteran-owned small business concerns, HUBZone small business concerns, small disadvantaged business concerns, and women-owned small business concerns.

(b) The Contractor hereby agrees to carry out this policy in the awarding of subcontracts to the fullest extent consistent with efficient contract performance. The Contractor further agrees to cooperate in any studies or surveys as may be conducted by the United States Small Business Administration or the awarding agency of the United States as may be necessary to determine the extent of the Contractor's compliance with this clause.

Definitions. As used in this contract--

HUBZone small business concern means a small business concern that appears on the List of Qualified HUBZone Small Business Concerns maintained by the Small Business Administration.

Service-disabled veteran-owned small business concern--

(1) Means a small business concern--

(i) Not less than 51 percent of which is owned by one or more service-disabled veterans or, in the case of any publicly owned business, not less than 51 percent of the stock of which is owned by one or more service-disabled veterans; and

(ii) The management and daily business operations of which are controlled by one or more service-disabled veterans or, in the case of a veteran with permanent and severe disability, the spouse or permanent caregiver of such veteran.

(2) Service-disabled veteran means a veteran, as defined in 38 U.S.C. 101(2), with a disability that is service-connected, as defined in 38 U.S.C. 101(16).

Small business concern means a small business as defined pursuant to Section 3 of the Small Business Act and relevant regulations promulgated pursuant thereto.

Small disadvantaged business concern means a small business concern that represents, as part of its offer that--

(1) It has received certification as a small disadvantaged business concern consistent with 13 CFR part 124, subpart B;

(2) No material change in disadvantaged ownership and control has occurred since its certification;

(3) Where the concern is owned by one or more individuals, the net worth of each individual upon whom the certification is based does not exceed \$750,000 after taking into account the applicable exclusions set forth at 13 CFR 124.104(c)(2); and

(4) It is identified, on the date of its representation, as a certified small disadvantaged business in the database maintained by the Small Business Administration (PRO-Net).

Veteran-owned small business concern means a small business concern--

- (1) Not less than 51 percent of which is owned by one or more veterans (as defined at 38 U.S.C. 101(2)) or, in the case of any publicly owned business, not less than 51 percent of the stock of which is owned by one or more veterans; and
- (2) The management and daily business operations of which are controlled by one or more veterans.

Women-owned small business concern means a small business concern--

- (1) That is at least 51 percent owned by one or more women, or, in the case of any publicly owned business, at least 51 percent of the stock of which is owned by one or more women; and
- (2) Whose management and daily business operations are controlled by one or more women.
- (d) Contractors acting in good faith may rely on written representations by their subcontractors regarding their status as a small business concern, a veteran-owned small business concern, a service-disabled veteran-owned small business concern, a HUBZone small business concern, a small disadvantaged business concern, or a women-owned small business concern.

(End of clause)

#### 52.219-14 LIMITATIONS ON SUBCONTRACTING (DEC 1996)

- (a) This clause does not apply to the unrestricted portion of a partial set-aside.
- (b) By submission of an offer and execution of a contract, the Offeror/Contractor agrees that in performance of the contract in the case of a contract for--
  - (1) Services (except construction). At least 50 percent of the cost of contract performance incurred for personnel shall be expended for employees of the concern.
  - (2) Supplies (other than procurement from a nonmanufacturer of such supplies). The concern shall perform work for at least 50 percent of the cost of manufacturing the supplies, not including the cost of materials.
  - (3) General construction. The concern will perform at least 15 percent of the cost of the contract, not including the cost of materials, with its own employees.
  - (4) Construction by special trade contractors. The concern will perform at least 25 percent of the cost of the contract, not including the cost of materials, with its own employees.

#### 52.222-1 NOTICE TO THE GOVERNMENT OF LABOR DISPUTES (FEB 1997)

If the Contractor has knowledge that any actual or potential labor dispute is delaying or threatens to delay the timely performance of this contract, the Contractor shall immediately give notice, including all relevant information, to the Contracting Officer.

#### 52.222-3 CONVICT LABOR (AUG 1996)

The Contractor agrees not to employ in the performance of this contract any person undergoing a sentence of imprisonment which has been imposed by any court of a State, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, Guam, American Samoa, the Commonwealth of the Northern Mariana Islands, or the Trust Territory of the Pacific Islands. This limitation, however, shall not prohibit the employment by the Contractor in the performance of this contract of persons on parole or probation to work at paid employment during the term of their sentence or persons who have been pardoned or who have served their terms. Nor shall it prohibit the employment by the Contractor in the performance of this contract of persons confined for violation of the laws of any of the States, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, Guam, American Samoa, the Commonwealth of the Northern Mariana Islands, or the Trust Territory of the Pacific Islands who are authorized to work at paid employment in the community under the laws of such jurisdiction, if--

(a)(1) The worker is paid or is in an approved work training program on a voluntary basis;

(2) Representatives of local union central bodies or similar labor union organizations have been consulted;

(3) Such paid employment will not result in the displacement of employed workers, or be applied in skills, crafts, or trades in which there is a surplus of available gainful labor in the locality, or impair existing contracts for services; and

(4) The rates of pay and other conditions of employment will not be less than those paid or provided for work of a similar nature in the locality in which the work is being performed; and

(b) The Attorney General of the United States has certified that the work-release laws or regulations of the jurisdiction involved are in conformity with the requirements of Executive Order 11755, as amended by Executive Orders 12608 and 12943.

(End of clause)

#### 52.222-4 CONTRACT WORK HOURS AND SAFETY STANDARDS ACT - OVERTIME COMPENSATION. (SEP 2000)

(a) Overtime requirements. No Contractor or subcontractor employing laborers or mechanics (see Federal Acquisition Regulation 22.300) shall require or permit them to work over 40 hours in any workweek unless they are paid at least 1 and 1/2 times the basic rate of pay for each hour worked over 40 hours.

(b) Violation; liability for unpaid wages; liquidated damages. The responsible Contractor and subcontractor are liable for unpaid wages if they violate the terms in paragraph (a) of this clause. In addition, the Contractor and subcontractor are liable for liquidated damages payable to the Government. The Contracting Officer will assess liquidated damages at the rate of \$10 per affected employee for each calendar day on which the employer required or permitted the employee to work in excess of the standard workweek of 40 hours without paying overtime wages required by the Contract Work Hours and Safety Standards Act.

(c) Withholding for unpaid wages and liquidated damages. The Contracting Officer will withhold from payments due under the contract sufficient funds required to satisfy any Contractor or subcontractor liabilities for unpaid wages and liquidated damages. If amounts withheld under the contract are insufficient to satisfy Contractor or subcontractor liabilities, the Contracting Officer will withhold payments from other Federal or Federally assisted contracts held by the same Contractor that are subject to the Contract Work Hours and Safety Standards Act.

(d) Payrolls and basic records.

(1) The Contractor and its subcontractors shall maintain payrolls and basic payroll records for all laborers and mechanics working on the contract during the contract and shall make them available to the Government until 3 years after contract completion. The records shall contain the name and address of each employee, social security number, labor classifications, hourly rates of wages paid, daily and weekly number of hours worked, deductions

made, and actual wages paid. The records need not duplicate those required for construction work by Department of Labor regulations at 29 CFR 5.5(a)(3) implementing the Davis-Bacon Act.

(2) The Contractor and its subcontractors shall allow authorized representatives of the Contracting Officer or the Department of Labor to inspect, copy, or transcribe records maintained under paragraph (d)(1) of this clause. The Contractor or subcontractor also shall allow authorized representatives of the Contracting Officer or Department of Labor to interview employees in the workplace during working hours.

(e) Subcontracts. The Contractor shall insert the provisions set forth in paragraphs (a) through (d) of this clause in subcontracts exceeding \$100,000 and require subcontractors to include these provisions in any lower tier subcontracts. The Contractor shall be responsible for compliance by any subcontractor or lower-tier subcontractor with the provisions set forth in paragraphs (a) through (d) of this clause.

(End of clause)

#### 52.222-6 DAVIS-BACON ACT (FEB 1995)

(a) All laborers and mechanics employed or working upon the site of the work will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR Part 3), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the Contractor and such laborers and mechanics. Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph (d) of this clause; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such period. Such laborers and mechanics shall be paid not less than the appropriate wage rate and fringe benefits in the wage determination for the classification of work actually performed, without regard to skill, except as provided in the clause entitled Apprentices and Trainees. Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein; provided, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classifications and wage rates conformed under paragraph (b) of this clause) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the Contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

(b)(1) The Contracting Officer shall require that any class of laborers or mechanics which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The Contracting Officer shall approve an additional classification and wage rate and fringe benefits therefor only when all the following criteria have been met:

(i) The work to be performed by the classification requested is not performed by a classification in the wage determination.

(ii) The classification is utilized in the area by the construction industry.

(iii) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(2) If the Contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the Contracting Officer agree on the classification and wage rate (including the amount designated for fringe benefits, where appropriate), a report of the action taken shall be sent by the Contracting Officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S.

Department of Labor, Washington, DC 20210. The Administrator or an authorized representative will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the Contracting Officer or will notify the Contracting Officer within the 30-day period that additional time is necessary.

(3) In the event the Contractor, the laborers or mechanics to be employed in the classification, or their representatives, and the Contracting Officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the Contracting Officer shall refer the questions, including the views of all interested parties and the recommendation of the Contracting Officer, to the Administrator of the Wage and Hour Division for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the Contracting Officer or will notify the Contracting Officer within the 30-day period that additional time is necessary.

(4) The wage rate (including fringe benefits, where appropriate) determined pursuant to subparagraphs (b)(2) and (b)(3) of this clause shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

(c) Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the Contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

(d) If the Contractor does not make payments to a trustee or other third person, the Contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program; provided, That the Secretary of Labor has found, upon the written request of the Contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the Contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

#### 52.222-7 WITHHOLDING OF FUNDS (FEB 1988)

The Contracting Officer shall, upon his or her own action or upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the Contractor under this contract or any other Federal contract with the same Prime Contractor, or any other Federally assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same Prime Contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the Contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the Contracting Officer may, after written notice to the Contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

#### 52.222-8 PAYROLLS AND BASIC RECORDS (FEB 1988)

(a) Payrolls and basic records relating thereto shall be maintained by the Contractor during the course of the work and preserved for a period of 3 years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made, and actual wages paid. Whenever the Secretary of Labor has found, under paragraph (d) of the clause entitled Davis-Bacon Act, that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the Contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees

under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

(b)(1) The Contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the Contracting Officer. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under paragraph (a) of this clause. This information may be submitted in any form desired. Optional Form WH-347 (Federal Stock Number 029-005-00014-1) is available for this purpose and may be purchased from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402. The Prime Contractor is responsible for the submission of copies of payrolls by all subcontractors.

(2) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the Contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify--

(i) That the payroll for the payroll period contains the information required to be maintained under paragraph (a) of this clause and that such information is correct and complete;

(ii) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in the Regulations, 29 CFR Part 3; and

(iii) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(3) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by subparagraph (b)(2) of this clause.

(4) The falsification of any of the certifications in this clause may subject the Contractor or subcontractor to civil or criminal prosecution under Section 1001 of Title 18 and Section 3729 of Title 31 of the United States Code.

(c) The Contractor or subcontractor shall make the records required under paragraph (a) of this clause available for inspection, copying, or transcription by the Contracting Officer or authorized representatives of the Contracting Officer or the Department of Labor. The Contractor or subcontractor shall permit the Contracting Officer or representatives of the Contracting Officer or the Department of Labor to interview employees during working hours on the job. If the Contractor or subcontractor fails to submit required records or to make them available, the Contracting Officer may, after written notice to the Contractor, take such action as may be necessary to cause the suspension of any further payment. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

#### 52.222-9 APPRENTICES AND TRAINEES (FEB 1988)

(a) Apprentices. Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Bureau of Apprenticeship and Training, or with a State Apprenticeship Agency recognized by the Bureau, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Bureau of Apprenticeship and Training or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the Contractor as to the entire work force under the registered program. Any worker listed on a



payroll at an apprentice wage rate, who is not registered or otherwise employed as stated in this paragraph, shall be paid not less than the applicable wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the Contractor's or subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event the Bureau of Apprenticeship and Training, or a State Apprenticeship Agency recognized by the Bureau, withdraws approval of an apprenticeship program, the Contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(b) Trainees. Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed in the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate in the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate in the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate in the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the Contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(c) Equal employment opportunity. The utilization of apprentices, trainees, and journeymen under this clause shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR Part 30.

#### 52.222-10 COMPLIANCE WITH COPELAND ACT REQUIREMENTS (FEB 1988)

The Contractor shall comply with the requirements of 29 CFR Part 3, which are hereby incorporated by reference in this contract.

#### 52.222-11 SUBCONTRACTS (LABOR STANDARDS (FEB 1988)

(a) The Contractor or subcontractor shall insert in any subcontracts the clauses entitled Davis-Bacon Act, Contract Work Hours and Safety Standards Act-Overtime Compensation, Apprentices and Trainees, Payrolls and Basic Records, Compliance with Copeland Act Requirements, Withholding of Funds, Subcontracts (Labor Standards), Contract Termination-Debarment, Disputes Concerning Labor Standards, Compliance with Davis-Bacon and

Related Act Regulations, and Certification of Eligibility, and such other clauses as the Contracting Officer may, by appropriate instructions, require, and also a clause requiring subcontractors to include these clauses in any lower tier subcontracts. The Prime Contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with all the contract clauses cited in this paragraph.

(b)(1) Within 14 days after award of the contract, the Contractor shall deliver to the Contracting Officer a completed Statement and Acknowledgment Form (SF 1413) for each subcontract, including the subcontractor's signed and dated acknowledgment that the clauses set forth in paragraph (a) of this clause have been included in the subcontract.

(2) Within 14 days after the award of any subsequently awarded subcontract the Contractor shall deliver to the Contracting Officer an updated completed SF 1413 for such additional subcontract.

#### 52.222-12 CONTRACT TERMINATION--DEBARMENT (FEB 1988)

A breach of the contract clauses entitled Davis-Bacon Act, Contract Work Hours and Safety Standards Act--Overtime Compensation, Apprentices and Trainees, Payrolls and Basic Records, Compliance with Copeland Act Requirements, Subcontracts (Labor Standards), Compliance with Davis-Bacon and Related Act Regulations, or Certification of Eligibility may be grounds for termination of the contract, and for debarment as a Contractor and subcontractor as provided in 29 CFR 5.12.

#### 52.222-13 COMPLIANCE WITH DAVIS-BACON AND RELATED ACT REGULATIONS (FEB 1988)

All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR Parts 1, 3, and 5 are hereby incorporated by reference in this contract.

#### 52.222-14 DISPUTES CONCERNING LABOR STANDARDS (FEB 1988)

The United States Department of Labor has set forth in 29 CFR Parts 5, 6, and 7 procedures for resolving disputes concerning labor standards requirements. Such disputes shall be resolved in accordance with those procedures and not the Disputes clause of this contract. Disputes within the meaning of this clause include disputes between the Contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

#### 52.222-15 CERTIFICATION OF ELIGIBILITY (FEB 1988)

(a) By entering into this contract, the Contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the Contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(b) No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(c) The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

#### 52.222-23 NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION TO ENSURE EQUAL EMPLOYMENT OPPORTUNITY FOR CONSTRUCTION (FEB 1999)

(a) The offeror's attention is called to the Equal Opportunity clause and the Affirmative Action Compliance Requirements for Construction clause of this solicitation.

(b) The goals for minority and female participation, expressed in percentage terms for the Contractor's aggregate workforce in each trade on all construction work in the covered area, are as follows:

Goals for minority participation for each trade	Goals for female participation for each trade
6.1%	6.9%

These goals are applicable to all the Contractor's construction work performed in the covered area. If the Contractor performs construction work in a geographical area located outside of the covered area, the Contractor shall apply the goals established for the geographical area where the work is actually performed. Goals are published periodically in the Federal Register in notice form, and these notices may be obtained from any Office of Federal Contract Compliance Programs office.

(c) The Contractor's compliance with Executive Order 11246, as amended, and the regulations in 41 CFR 60-4 shall be based on (1) its implementation of the Equal Opportunity clause, (2) specific affirmative action obligations required by the clause entitled "Affirmative Action Compliance Requirements for Construction," and (3) its efforts to meet the goals. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade. The Contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor, or from project to project, for the sole purpose of meeting the Contractor's goals shall be a violation of the contract, Executive Order 11246, as amended, and the regulations in 41 CFR 60-4. Compliance with the goals will be measured against the total work hours performed.

(d) The Contractor shall provide written notification to the Deputy Assistant Secretary for Federal Contract Compliance, U.S. Department of Labor, within 10 working days following award of any construction subcontract in excess of \$10,000 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the --

- (1) Name, address, and telephone number of the subcontractor;
- (2) Employer's identification number of the subcontractor;
- (3) Estimated dollar amount of the subcontract;
- (4) Estimated starting and completion dates of the subcontract; and
- (5) Geographical area in which the subcontract is to be performed.

(e) As used in this Notice, and in any contract resulting from this solicitation, the "covered area" is [Contracting Officer shall insert description of the geographical areas where the contract is to be performed, giving the State, county, and city].

#### 52.222-26 EQUAL OPPORTUNITY (FEB 1999)

(a) If, during any 12-month period (including the 12 months preceding the award of this contract), the Contractor has been or is awarded nonexempt Federal contracts and/or subcontracts that have an aggregate value in excess of \$10,000, the Contractor shall comply with subparagraphs (b)(1) through (11) of this clause. Upon request, the Contractor shall provide information necessary to determine the applicability of this clause.

(b) During performing this contract, the Contractor agrees as follows:

(1) The Contractor shall not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. However, it shall not be a violation of this clause for the Contractor to extend a publicly announced preference in employment to Indians living on or near an Indian reservation, in connection with employment opportunities on or near an Indian reservation, as permitted by 41 CFR 60-1.5.

(2) The Contractor shall take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, religion, sex, or national origin. This shall include, but not be limited to, (i) employment, (ii) upgrading, (iii) demotion, (iv) transfer, (v) recruitment or recruitment advertising, (vi) layoff or termination, (vii) rates of pay or other forms of compensation, and (viii) selection for training, including apprenticeship.

(3) The Contractor shall post in conspicuous places available to employees and applicants for employment the notices to be provided by the Contracting Officer that explain this clause.

(4) The Contractor shall, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, or national origin.

(5) The Contractor shall send, to each labor union or representative of workers with which it has a collective bargaining agreement or other contract or understanding, the notice to be provided by the Contracting Officer advising the labor union or workers' representative of the Contractor's commitments under this clause, and post copies of the notice in conspicuous places available to employees and applicants for employment.

(6) The Contractor shall comply with Executive Order 11246, as amended, and the rules, regulations, and orders of the Secretary of Labor.

(7) The Contractor shall furnish to the contracting agency all information required by Executive Order 11246, as amended, and by the rules, regulations, and orders of the Secretary of Labor. The Contractor shall also file Standard Form 100 (EEO-1), or any successor form, as prescribed in 41 CFR part 60-1. Unless the Contractor has filed within the 12 months preceding the date of contract award, the Contractor shall, within 30 days after contract award, apply to either the regional Office of Federal Contract Compliance Programs (OFCCP) or the local office of the Equal Employment Opportunity Commission for the necessary forms.

(8) The Contractor shall permit access to its premises, during normal business hours, by the contracting agency or the OFCCP for the purpose of conducting on-site compliance evaluations and complaint investigations. The Contractor shall permit the Government to inspect and copy any books, accounts, records (including computerized records), and other material that may be relevant to the matter under investigation and pertinent to compliance with Executive Order 11246, as amended, and rules and regulations that implement the Executive Order.

(9) If the OFCCP determines that the Contractor is not in compliance with this clause or any rule, regulation, or order of the Secretary of Labor, this contract may be canceled, terminated, or suspended in whole or in part and the Contractor may be declared ineligible for further Government contracts, under the procedures authorized in Executive Order 11246, as amended. In addition, sanctions may be imposed and remedies invoked against the Contractor as provided in Executive Order 11246, as amended; in the rules, regulations, and orders of the Secretary of Labor; or as otherwise provided by law.

(10) The Contractor shall include the terms and conditions of subparagraphs (b)(1) through (11) of this clause in every subcontract or purchase order that is not exempted by the rules, regulations, or orders of the Secretary of Labor issued under Executive Order 11246, as amended, so that these terms and conditions will be binding upon each subcontractor or vendor.

(11) The Contractor shall take such action with respect to any subcontract or purchase order as the contracting officer may direct as a means of enforcing these terms and conditions, including sanctions for noncompliance; provided, that if the Contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of any direction, the Contractor may request the United States to enter into the litigation to protect the

interests of the United States.

(c) Notwithstanding any other clause in this contract, disputes relative to this clause will be governed by the procedures in 41 CFR 60-1.1.

## 52.222-27 AFFIRMATIVE ACTION COMPLIANCE REQUIREMENTS FOR CONSTRUCTION (FEB 1999)

(a) Definitions. "Covered area," as used in this clause, means the geographical area described in the solicitation for this contract.

"Deputy Assistant Secretary," as used in this clause, means Deputy Assistant Secretary for Federal Contract Compliance, U.S. Department of Labor, or a designee.

"Employer's identification number," as used in this clause, means the Federal Social Security number used on the employer's quarterly federal tax return, U.S. Treasury Department Form 941.

"Minority," as used in this clause, means--

(1) American Indian or Alaskan Native (all persons having origins in any of the original peoples of North America and maintaining identifiable tribal affiliations through membership and participation or community identification).

(2) Asian and Pacific Islander (all persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Islands);

(3) Black (all persons having origins in any of the black African racial groups not of Hispanic origin); and

(4) Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race).

(b) If the Contractor, or a subcontractor at any tier, subcontracts a portion of the work involving any construction trade, each such subcontract in excess of \$10,000 shall include this clause and the Notice containing the goals for minority and female participation stated in the solicitation for this contract.

(c) If the Contractor is participating in a Hometown Plan (41 CFR 60-4) approved by the U.S. Department of Labor in a covered area, either individually or through an association, its affirmative action obligations on all work in the plan area (including goals) shall comply with the plan for those trades that have unions participating in the plan. Contractors must be able to demonstrate participation in, and compliance with, the provisions of the plan. Each Contractor or subcontractor participating in an approved plan is also required to comply with its obligations under the Equal Opportunity clause, and to make a good faith effort to achieve each goal under the plan in each trade in which it has employees. The overall good-faith performance by other Contractors or subcontractors toward a goal in an approved plan does not excuse any Contractor's or subcontractor's failure to make good-faith efforts to achieve the plan's goals.

(d) The Contractor shall implement the affirmative action procedures in subparagraphs (g)(1) through (16) of this clause. The goals stated in the solicitation for this contract are expressed as percentages of the total hours of employment and training of minority and female utilization that the Contractor should reasonably be able to achieve in each construction trade in which it has employees in the covered area. If the Contractor performs construction work in a geographical area located outside of the covered area, it shall apply the goals established for the geographical area where that work is actually performed. The Contractor is expected to make substantially uniform progress toward its goals in each craft.

(e) Neither the terms and conditions of any collective bargaining agreement, nor the failure by a union with which the Contractor has a collective bargaining agreement, to refer minorities or women shall excuse the Contractor's obligations under this clause, Executive Order 11246, as amended, or the regulations thereunder.

(f) In order for the nonworking training hours of apprentices and trainees to be counted in meeting the goals, apprentices and trainees must be employed by the Contractor during the training period, and the Contractor must have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees must be trained pursuant to training programs approved by the U.S. Department of Labor.

(g) The Contractor shall take affirmative action to ensure equal employment opportunity. The evaluation of the Contractor's compliance with this clause shall be based upon its effort to achieve maximum results from its actions. The Contractor shall document these efforts fully and implement affirmative action steps at least as extensive as the following:

(1) Ensure a working environment free of harassment, intimidation, and coercion at all sites and in all facilities where the Contractor's employees are assigned to work. The Contractor, if possible, will assign two or more women to each construction project. The Contractor shall ensure that foremen, superintendents, and other onsite supervisory personnel are aware of and carry out the Contractor's obligation to maintain such a working environment, with specific attention to minority or female individuals working at these sites or facilities.

(2) Establish and maintain a current list of sources for minority and female recruitment. Provide written notification to minority and female recruitment sources and community organizations when the Contractor or its unions have employment opportunities available, and maintain a record of the organizations' responses.

(3) Establish and maintain a current file of the names, addresses, and telephone numbers of each minority and female off-the-street applicant, referrals of minorities or females from unions, recruitment sources, or community organizations, and the action taken with respect to each individual. If an individual was sent to the union hiring hall for referral and not referred back to the Contractor by the union or, if referred back, not employed by the Contractor, this shall be documented in the file, along with whatever additional actions the Contractor may have taken.

(4) Immediately notify the Deputy Assistant Secretary when the union or unions with which the Contractor has a collective bargaining agreement has not referred back to the Contractor a minority or woman sent by the Contractor, or when the Contractor has other information that the union referral process has impeded the Contractor's efforts to meet its obligations.

(5) Develop on-the-job training opportunities and/or participate in training programs for the area that expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the Contractor's employment needs, especially those programs funded or approved by the Department of Labor. The Contractor shall provide notice of these programs to the sources compiled under subparagraph (g)(2) of this clause.

(6) Disseminate the Contractor's equal employment policy by--

(i) Providing notice of the policy to unions and to training, recruitment, and outreach programs, and requesting their cooperation in assisting the Contractor in meeting its contract obligations;

(ii) Including the policy in any policy manual and in collective bargaining agreements;

(iii) Publicizing the policy in the company newspaper, annual report, etc.;

(iv) Reviewing the policy with all management personnel and with all minority and female employees at least once a year; and

(v) Posting the policy on bulletin boards accessible to employees at each location where construction work is performed.

(7) Review, at least annually, the Contractor's equal employment policy and affirmative action obligations with all

employees having responsibility for hiring, assignment, layoff, termination, or other employment decisions. Conduct review of this policy with all on-site supervisory personnel before initiating construction work at a job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.

(8) Disseminate the Contractor's equal employment policy externally by including it in any advertising in the news media, specifically including minority and female news media. Provide written notification to, and discuss this policy with, other Contractors and subcontractors with which the Contractor does or anticipates doing business.

(9) Direct recruitment efforts, both oral and written, to minority, female, and community organizations, to schools with minority and female students, and to minority and female recruitment and training organizations serving the Contractor's recruitment area and employment needs. Not later than 1 month before the date for acceptance of applications for apprenticeship or training by any recruitment source, send written notification to organizations such as the above, describing the openings, screening procedures, and tests to be used in the selection process.

(10) Encourage present minority and female employees to recruit minority persons and women. Where reasonable, provide after-school, summer, and vacation employment to minority and female youth both on the site and in other areas of the Contractor's workforce.

(11) Validate all tests and other selection requirements where required under 41 CFR 60-3.

(12) Conduct, at least annually, an inventory and evaluation at least of all minority and female personnel for promotional opportunities. Encourage these employees to seek or to prepare for, through appropriate training, etc., opportunities for promotion.

(13) Ensure that seniority practices, job classifications, work assignments, and other personnel practices do not have a discriminatory effect by continually monitoring all personnel and employment-related activities to ensure that the Contractor's obligations under this contract are being carried out.

(14) Ensure that all facilities and company activities are nonsegregated except that separate or single-user rest rooms and necessary dressing or sleeping areas shall be provided to assure privacy between the sexes.

(15) Maintain a record of solicitations for subcontracts for minority and female construction contractors and suppliers, including circulation of solicitations to minority and female contractor associations and other business associations.

(16) Conduct a review, at least annually, of all supervisors' adherence to and performance under the Contractor's equal employment policy and affirmative action obligations.

(h) The Contractor is encouraged to participate in voluntary associations that may assist in fulfilling one or more of the affirmative action obligations contained in subparagraphs (g)(1) through (16) of this clause. The efforts of a contractor association, joint contractor-union, contractor-community, or similar group of which the contractor is a member and participant may be asserted as fulfilling one or more of its obligations under subparagraphs (g)(1) through (16) of this clause, provided the Contractor--

(1) Actively participates in the group;

(2) Makes every effort to ensure that the group has a positive impact on the employment of minorities and women in the industry;

(3) Ensures that concrete benefits of the program are reflected in the Contractor's minority and female workforce participation;

(4) Makes a good-faith effort to meet its individual goals and timetables; and

(5) Can provide access to documentation that demonstrates the effectiveness of actions taken on behalf of the Contractor. The obligation to comply is the Contractor's, and failure of such a group to fulfill an obligation shall not be a defense for the Contractor's noncompliance.

(i) A single goal for minorities and a separate single goal for women shall be established. The Contractor is required to provide equal employment opportunity and to take affirmative action for all minority groups, both male and female, and all women, both minority and nonminority. Consequently, the Contractor may be in violation of Executive Order 11246, as amended, if a particular group is employed in a substantially disparate manner.

(j) The Contractor shall not use goals or affirmative action standards to discriminate against any person because of race, color, religion, sex, or national origin.

(k) The Contractor shall not enter into any subcontract with any person or firm debarred from Government contracts under Executive Order 11246, as amended.

(l) The Contractor shall carry out such sanctions and penalties for violation of this clause and of the Equal Opportunity clause, including suspension, termination, and cancellation of existing subcontracts, as may be imposed or ordered under Executive Order 11246, as amended, and its implementing regulations, by the OFCCP. Any failure to carry out these sanctions and penalties as ordered shall be a violation of this clause and Executive Order 11246, as amended.

(m) The Contractor in fulfilling its obligations under this clause shall implement affirmative action procedures at least as extensive as those prescribed in paragraph (g) of this clause, so as to achieve maximum results from its efforts to ensure equal employment opportunity. If the Contractor fails to comply with the requirements of Executive Order 11246, as amended, the implementing regulations, or this clause, the Deputy Assistant Secretary shall take action as prescribed in 41 CFR 60-4.8.

(n) The Contractor shall designate a responsible official to--

(1) Monitor all employment-related activity to ensure that the Contractor's equal employment policy is being carried out;

(2) Submit reports as may be required by the Government; and

(3) Keep records that shall at least include for each employee the name, address, telephone number, construction trade, union affiliation (if any), employee identification number, social security number, race, sex, status (e.g., mechanic, apprentice, trainee, helper, or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay, and locations at which the work was performed. Records shall be maintained in an easily understandable and retrievable form; however, to the degree that existing records satisfy this requirement, separate records are not required to be maintained.

Nothing contained herein shall be construed as a limitation upon the application of other laws that establish different standards of compliance or upon the requirements for the hiring of local or other area residents (e.g., those under the Public Works Employment Act of 1977 and the Community Development Block Grant Program).

#### 52.222-35 AFFIRMATIVE ACTION FOR DISABLED VETERANS AND VETERANS OF THE VIETNAM ERA (APR 1998)

(a) ) Definitions. As used in this clause--

All employment openings includes all positions except executive and top management, those positions that will be filled from within the contractor's organization, and positions lasting 3 days or less. This term includes full-time employment, temporary employment of more than 3 days' duration, and part-time employment.



Appropriate office of the State employment service system means the local office of the Federal-State national system of public employment offices with assigned responsibility to serve the area where the employment opening is to be filled, including the District of Columbia, Guam, the Commonwealth of Puerto Rico, and the Virgin Islands.

Positions that will be filled from within the Contractor's organization means employment openings for which no consideration will be given to persons outside the Contractor's organization (including any affiliates, subsidiaries, and parent companies) and includes any openings that the Contractor proposes to fill from regularly established "recall" lists. The exception does not apply to a particular opening once an employer decides to consider applicants outside of its organization.

Veteran of the Vietnam era means a person who--

(1) Served on active duty for a period of more than 180 days, any part of which occurred between August 5, 1964, and May 7, 1975, and was discharged or released therefrom with other than a dishonorable discharge; or

(2) Was discharged or released from active duty for a service-connected disability if any part of such active duty was performed between August 5, 1964, and May 7, 1975.

(b) General. (1) Regarding any position for which the employee or applicant for employment is qualified, the Contractor shall not discriminate against the individual because the individual is a disabled veteran or a veteran of the Vietnam era. The Contractor agrees to take affirmative action to employ, advance in employment, and otherwise treat qualified disabled veterans and veterans of the Vietnam era without discrimination based upon their disability or veterans' status in all employment practices such as--

(i) Employment;

(ii) Upgrading;

(iii) Demotion or transfer;

(iv) Recruitment;

(v) Advertising;

(vi) Layoff or termination;

(vii) Rates of pay or other forms of compensation; and

(viii) Selection for training, including apprenticeship.

(2) The Contractor agrees to comply with the rules, regulations, and relevant orders of the Secretary of Labor (Secretary) issued under the Vietnam Era Veterans' Readjustment Assistance Act of 1972 (the Act), as amended.

(c) Listing openings. (1) The Contractor agrees to list all employment openings existing at contract award or occurring during contract performance, at an appropriate office of the State employment service system in the locality where the opening occurs. These openings include those occurring at any Contractor facility, including one not connected with performing this contract. An independent corporate affiliate is exempt from this requirement.

(2) State and local government agencies holding Federal contracts of \$10,000 or more shall also list all their employment openings with the appropriate office of the State employment service.

(3) The listing of employment openings with the State employment service system is required at least concurrently with using any other recruitment source or effort and involves the obligations of placing a bona fide job order, including accepting referrals of veterans and nonveterans. This listing does not require hiring any particular job

applicant or hiring from any particular group of job applicants and is not intended to relieve the Contractor from any requirements of Executive orders or regulations concerning nondiscrimination in employment.

(4) Whenever the Contractor becomes contractually bound to the listing terms of this clause, it shall advise the State employment service system, in each State where it has establishments, of the name and location of each hiring location in the State. As long as the Contractor is contractually bound to these terms and has so advised the State system, it need not advise the State system of subsequent contracts. The Contractor may advise the State system when it is no longer bound by this contract clause.

(d) Applicability. This clause does not apply to the listing of employment openings that occur and are filled outside the 50 States, the District of Columbia, the Commonwealth of Puerto Rico, Guam, and the Virgin Islands.

(e) Postings. (1) The Contractor agrees to post employment notices stating (i) the Contractor's obligation under the law to take affirmative action to employ and advance in employment qualified disabled veterans and veterans of the Vietnam era, and (ii) the rights of applicants and employees.

(2) These notices shall be posted in conspicuous places that are available to employees and applicants for employment. They shall be in a form prescribed by the Deputy Assistant Secretary for Federal Contract Compliance Programs, Department of Labor (Deputy Assistant Secretary), and provided by or through the Contracting Officer.

(3) The Contractor shall notify each labor union or representative of workers with which it has a collective bargaining agreement or other contract understanding, that the Contractor is bound by the terms of the Act, and is committed to take affirmative action to employ, and advance in employment, qualified disabled veterans and veterans of the Vietnam Era.

(f) Noncompliance. If the Contractor does not comply with the requirements of this clause, appropriate actions may be taken under the rules, regulations, and relevant orders of the Secretary issued pursuant to the Act.

(g) Subcontracts. The Contractor shall include the terms of this clause in every subcontract or purchase order of \$10,000 or more unless exempted by rules, regulations, or orders of the Secretary. The Contractor shall act as specified by the Deputy Assistant Secretary to enforce the terms, including action for noncompliance.

(End of clause)

#### 52.222-36 AFFIRMATIVE ACTION FOR WORKERS WITH DISABILITIES (JUN 1998)

(a) General. (1) Regarding any position for which the employee or applicant for employment is qualified, the Contractor shall not discriminate against any employee or applicant because of physical or mental disability. The Contractor agrees to take affirmative action to employ, advance in employment, and otherwise treat qualified individuals with disabilities without discrimination based upon their physical or mental disability in all employment practices such as--

(i) Recruitment, advertising, and job application procedures;

(ii) Hiring, upgrading, promotion, award of tenure, demotion, transfer, layoff, termination, right of return from layoff, and rehiring;

(iii) Rates of pay or any other form of compensation and changes in compensation;

(iv) Job assignments, job classifications, organizational structures, position descriptions, lines of progression, and seniority lists;

(v) Leaves of absence, sick leave, or any other leave;

(vi) Fringe benefits available by virtue of employment, whether or not administered by the Contractor;

(vii) Selection and financial support for training, including apprenticeships, professional meetings, conferences, and other related activities, and selection for leaves of absence to pursue training;

(viii) Activities sponsored by the Contractor, including social or recreational programs; and

(ix) Any other term, condition, or privilege of employment.

(2) The Contractor agrees to comply with the rules, regulations, and relevant orders of the Secretary of Labor (Secretary) issued under the Rehabilitation Act of 1973 (29 U.S.C. 793) (the Act), as amended.

(b) Postings. (1) The Contractor agrees to post employment notices stating--

(i) The Contractor's obligation under the law to take affirmative action to employ and advance in employment qualified individuals with disabilities; and

(ii) The rights of applicants and employees.

(2) These notices shall be posted in conspicuous places that are available to employees and applicants for employment. The Contractor shall ensure that applicants and employees with disabilities are informed of the contents of the notice (e.g., the Contractor may have the notice read to a visually disabled individual, or may lower the posted notice so that it might be read by a person in a wheelchair). The notices shall be in a form prescribed by the Deputy Assistant Secretary for Federal Contract Compliance of the U.S. Department of Labor (Deputy Assistant Secretary) and shall be provided by or through the Contracting Officer.

(3) The Contractor shall notify each labor union or representative of workers with which it has a collective bargaining agreement or other contract understanding, that the Contractor is bound by the terms of Section 503 of the Act and is committed to take affirmative action to employ, and advance in employment, qualified individuals with physical or mental disabilities.

(c) Noncompliance. If the Contractor does not comply with the requirements of this clause, appropriate actions may be taken under the rules, regulations, and relevant orders of the Secretary issued pursuant to the Act.

(d) Subcontracts. The Contractor shall include the terms of this clause in every subcontract or purchase order in excess of \$10,000 unless exempted by rules, regulations, or orders of the Secretary. The Contractor shall act as specified by the Deputy Assistant Secretary to enforce the terms, including action for noncompliance.

(End of clause)

#### 52.222-37 EMPLOYMENT REPORTS ON DISABLED VETERANS AND VETERANS OF THE VIETNAM ERA (JAN 1999)

(a) Unless the Contractor is a State or local government agency, the Contractor shall report at least annually, as required by the Secretary of Labor, on--

(1) The number of disabled veterans and the number of veterans of the Vietnam era in the workforce of the contractor by job category and hiring location; and

(2) The total number of new employees hired during the period covered by the report, and of that total, the number of disabled veterans, and the number of veterans of the Vietnam era.

(b) The above items shall be reported by completing the form entitled "Federal Contractor Veterans' Employment Report VETS-100."

(c) Reports shall be submitted no later than September 30 of each year beginning September 30, 1988.

(d) The employment activity report required by paragraph (a)(2) of this clause shall reflect total hires during the most recent 12-month period as of the ending date selected for the employment profile report required by paragraph (a)(1) of this clause. Contractors may select an ending date: (1) As of the end of any pay period during the period January through March 1st of the year the report is due, or (2) as of December 31, if the contractor has previous written approval from the Equal Employment Opportunity Commission to do so for purposes of submitting the Employer Information Report EEO-1 (Standard Form 100).

(e) The count of veterans reported according to paragraph (a) of this clause shall be based on voluntary disclosure. Each Contractor subject to the reporting requirements at 38 U.S.C. 4212 shall invite all disabled veterans and veterans of the Vietnam era who wish to benefit under the affirmative action program at 38 U.S.C. 4212 to identify themselves to the Contractor. The invitation shall state that the information is voluntarily provided; that the information will be kept confidential; that disclosure or refusal to provide the information will not subject the applicant or employee to any adverse treatment; and that the information will be used only in accordance with the regulations promulgated under 38 U.S.C. 4212.

(f) Subcontracts. The Contractor shall include the terms of this clause in every subcontract or purchase order of \$10,000 or more unless exempted by rules, regulations, or orders of the Secretary.

(End of clause)

#### 52.223-3 HAZARDOUS MATERIAL IDENTIFICATION AND MATERIAL SAFETY DATA (JAN 1997)

(a) "Hazardous material", as used in this clause, includes any material defined as hazardous under the latest version of Federal Standard No. 313 (including revisions adopted during the term of the contract).

(b) The offeror must list any hazardous material, as defined in paragraph (a) of this clause, to be delivered under this contract. The hazardous material shall be properly identified and include any applicable identification number, such as National Stock Number or Special Item Number. This information shall also be included on the Material Safety Data Sheet submitted under this contract.

Material	Identification No.
(If none, insert "None")	
_____	_____
_____	_____
_____	_____

(c) This list must be updated during performance of the contract whenever the Contractor determines that any other material to be delivered under this contract is hazardous.

(d) The apparently successful offeror agrees to submit, for each item as required prior to award, a Material Safety Data Sheet, meeting the requirements of 29 CFR 1910.1200(g) and the latest version of Federal Standard No. 313, for all hazardous material identified in paragraph (b) of this clause. Data shall be submitted in accordance with Federal Standard No. 313, whether or not the apparently successful offeror is the actual manufacturer of these items. Failure to submit the Material Safety Data Sheet prior to award may result in the apparently successful offeror being considered nonresponsible and ineligible for award.

(e) If, after award, there is a change in the composition of the item(s) or a revision to Federal Standard No. 313, which renders incomplete or inaccurate the data submitted under paragraph (d) of this clause, the Contractor shall promptly notify the Contracting Officer and resubmit the data.

(f) Neither the requirements of this clause nor any act or failure to act by the Government shall relieve the Contractor of any responsibility or liability for the safety of Government, Contractor, or subcontractor personnel or property.

(g) Nothing contained in this clause shall relieve the Contractor from complying with applicable Federal, State, and local laws, codes, ordinances, and regulations (including the obtaining of licenses and permits) in connection with hazardous material.

(h) The Government's rights in data furnished under this contract with respect to hazardous material are as follows:

(1) To use, duplicate and disclose any data to which this clause is applicable. The purposes of this right are to--

(i) Apprise personnel of the hazards to which they may be exposed in using, handling, packaging, transporting, or disposing of hazardous materials;

(ii) Obtain medical treatment for those affected by the material; and

(iii) Have others use, duplicate, and disclose the data for the Government for these purposes.

(2) To use, duplicate, and disclose data furnished under this clause, in accordance with subparagraph (h)(1) of this clause, in precedence over any other clause of this contract providing for rights in data.

(3) The Government is not precluded from using similar or identical data acquired from other sources.

(End of clause)

#### 52.223-6 DRUG-FREE WORKPLACE (JAN 1997)

(a) Definitions. As used in this clause --

"Controlled substance" means a controlled substance in schedules I through V of section 202 of the Controlled Substances Act (21 U.S.C. 812) and as further defined in regulation at 21 CFR 1308.11 - 1308.15.

"Conviction" means a finding of guilt (including a plea of nolo contendere) or imposition of sentence, or both, by any judicial body charged with the responsibility to determine violations of the Federal or State criminal drug statutes.

"Criminal drug statute" means a Federal or non-Federal criminal statute involving the manufacture, distribution, dispensing, possession, or use of any controlled substance.

"Drug-free workplace" means the site(s) for the performance of work done by the Contractor in connection with a specific contract at which employees of the Contractor are prohibited from engaging in the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance.

"Employee" means an employee of a Contractor directly engaged in the performance of work under a Government contract. "Directly engaged" is defined to include all direct cost employees and any other Contractor employee who has other than a minimal impact or involvement in contract performance.

"Individual" means an offeror/contractor that has no more than one employee including the offeror/contractor.

(b) The Contractor, if other than an individual, shall-- within 30 days after award (unless a longer period is agreed to in writing for contracts of 30 days or more performance duration), or as soon as possible for contracts of less than 30 days performance duration--

(1) Publish a statement notifying its employees that the unlawful manufacture, distribution, dispensing, possession,

or use of a controlled substance is prohibited in the Contractor's workplace and specifying the actions that will be taken against employees for violations of such prohibition;

(2) Establish an ongoing drug-free awareness program to inform such employees about--

- (i) The dangers of drug abuse in the workplace;
- (ii) The Contractor's policy of maintaining a drug-free workplace;
- (iii) Any available drug counseling, rehabilitation, and employee assistance programs; and
- (iv) The penalties that may be imposed upon employees for drug abuse violations occurring in the workplace;

(3) Provide all employees engaged in performance of the contract with a copy of the statement required by subparagraph (b)(1) of this clause;

(4) Notify such employees in writing in the statement required by subparagraph (b)(1) of this clause that, as a condition of continued employment on this contract, the employee will--

- (i) Abide by the terms of the statement; and
- (ii) Notify the employer in writing of the employee's conviction under a criminal drug statute for a violation occurring in the workplace no later than 5 days after such conviction.

(5) Notify the Contracting Officer in writing within 10 days after receiving notice under subdivision (b)(4)(ii) of this clause, from an employee or otherwise receiving actual notice of such conviction. The notice shall include the position title of the employee;

(6) Within 30 days after receiving notice under subdivision (b)(4)(ii) of this clause of a conviction, take one of the following actions with respect to any employee who is convicted of a drug abuse violation occurring in the workplace:

- (i) Taking appropriate personnel action against such employee, up to and including termination; or
- (ii) Require such employee to satisfactorily participate in a drug abuse assistance or rehabilitation program approved for such purposes by a Federal, State, or local health, law enforcement, or other appropriate agency; and

(7) Make a good faith effort to maintain a drug-free workplace through implementation of subparagraphs (b)(1) through (b)(6) of this clause.

(c) The Contractor, if an individual, agrees by award of the contract or acceptance of a purchase order, not to engage in the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance while performing this contract.

(d) In addition to other remedies available to the Government, the Contractor's failure to comply with the requirements of paragraph (b) or (c) of this clause may, pursuant to FAR 23.506, render the Contractor subject to suspension of contract payments, termination of the contract for default, and suspension or debarment.

(End of clause)

#### 52.223-14 TOXIC CHEMICAL RELEASE REPORTING (OCT 2000)

(a) Unless otherwise exempt, the Contractor, as owner or operator of a facility used in the performance of this contract, shall file by July 1 for the prior calendar year an annual Toxic Chemical Release Inventory Form (Form R) as described in sections 313(a) and (g) of the Emergency Planning and Community Right-to-Know Act of 1986

(EPCRA) (42 U.S.C. 11023(a) and (g)), and section 6607 of the Pollution Prevention Act of 1990 (PPA) (42 U.S.C. 13106). The Contractor shall file, for each facility subject to the Form R filing and reporting requirements, the annual Form R throughout the life of the contract.

(b) A Contractor owned or operated facility used in the performance of this contract is exempt from the requirement to file an annual Form R if--

(1) The facility does not manufacture, process, or otherwise use any toxic chemicals listed under section 313(c) of EPCRA, 42 U.S.C. 11023(c);

(2) The facility does not have 10 or more full-time employees as specified in section 313(b)(1)(A) of EPCRA, 42 U.S.C. 11023(b)(1)(A);

(3) The facility does not meet the reporting thresholds of toxic chemicals established under of EPCRA, 42 U.S.C. 11023(f) (including the alternate thresholds at 40 CFR 372.27, provided an appropriate certification form has been filed with EPA);

(4) The facility does not fall within Standard Industrial Classification Code (SIC) major groups 20 through 39 or their corresponding North American Industry Classification System (NAICS) sectors 31 through 33; or

(5) The facility is not located within any State of the United States, the District of Columbia, the Commonwealth of Puerto Rico, Guam, American Samoa, the United States Virgin Islands, the Northern Mariana Islands, or any other territory or possession over which the United States has jurisdiction.

(c) If the Contractor has certified to an exemption in accordance with one or more of the criteria in paragraph (b) of this clause, and after award of the contract circumstances change so that any of its owned or operated facilities used in the performance of this contract is no longer exempt--

(1) The Contractor shall notify the Contracting Officer; and

(2) The Contractor, as owner or operator of a facility used in the performance of this contract that is no longer exempt, shall (i) submit a Toxic Chemical Release Inventory Form (Form R) on or before July 1 for the prior calendar year during which the facility becomes eligible; and (ii) continue to file the annual Form R for the life of the contract for such facility.

(d) The Contracting Officer may terminate this contract or take other action as appropriate, if the Contractor fails to comply accurately and fully with the EPCRA and PPA toxic chemical release filing and reporting requirements.

(e) Except for acquisitions of commercial items, as defined in FAR Part 2, the Contractor shall--

(1) For competitive subcontracts expected to exceed \$100,000 (including all options), include a solicitation provision substantially the same as the provision at FAR 52.223-13, Certification of Toxic Chemical Release Reporting; and

(2) Include in any resultant subcontract exceeding \$100,000 (including all options), the substance of this clause, except this paragraph (e).

#### 252.223-7001 HAZARD WARNING LABELS (DEC 1991)

(a) "Hazardous material," as used in this clause, is defined in the Hazardous Material Identification and Material Safety Data clause of this contract.

(b) The Contractor shall label the item package (unit container) of any hazardous material to be delivered under this contract in accordance with the Hazard Communication Standard (29 CFR 1910.1200 et seq). The Standard requires

that the hazard warning label conform to the requirements of the standard unless the material is otherwise subject to the labeling requirements of one of the following statutes:

- (1) Federal Insecticide, Fungicide and Rodenticide Act;
- (2) Federal Food, Drug and Cosmetics Act;
- (3) Consumer Product Safety Act;
- (4) Federal Hazardous Substances Act; or
- (5) Federal Alcohol Administration Act.

(c) The Offeror shall list which hazardous material listed in the Hazardous Material Identification and Material Safety Data clause of this contract will be labeled in accordance with one of the Acts in paragraphs (b)(1) through (5) of this clause instead of the Hazard Communication Standard. Any hazardous material not listed will be interpreted to mean that a label is required in accordance with the Hazard Communication Standard.

MATERIAL (If None, Insert "None.")

ACT

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(d) The apparently successful Offeror agrees to submit, before award, a copy of the hazard warning label for all hazardous materials not listed in paragraph (c) of this clause. The Offeror shall submit the label with the Material Safety Data Sheet being furnished under the Hazardous Material Identification and Material Safety Data clause of this contract.

(e) The Contractor shall also comply with MIL-STD-129, Marking for Shipment and Storage (including revisions adopted during the term of this contract).

(End of clause)

#### 252.223-7004 DRUG-FREE WORK FORCE (SEP 1988)

(a) Definitions.

(1) "Employee in a sensitive position," as used in this clause, means an employee who has been granted access to classified information; or employees in other positions that the Contractor determines involve national security; health or safety, or functions other than the foregoing requiring a high degree of trust and confidence.

(2) "Illegal drugs," as used in this clause, means controlled substances included in Schedules I and II, as defined by section 802(6) of title 21 of the United States Code, the possession of which is unlawful under chapter 13 of that Title. The term "illegal drugs" does not mean the use of a controlled substance pursuant to a valid prescription or other uses authorized by law.

(b) The Contractor agrees to institute and maintain a program for achieving the objective of a drug-free work force. While this clause defines criteria for such a program, contractors are encouraged to implement alternative approaches comparable to the criteria in paragraph (c) that are designed to achieve the objectives of this clause.

(c) Contractor programs shall include the following, or appropriate alternatives:

- (1) Employee assistance programs emphasizing high level direction, education, counseling, rehabilitation, and coordination with available community resources;
- (2) Supervisory training to assist in identifying and addressing illegal drug use by Contractor employees;



(3) Provision for self-referrals as well as supervisory referrals to treatment with maximum respect for individual confidentiality consistent with safety and security issues;

(4) Provision for identifying illegal drug users, including testing on a controlled and carefully monitored basis. Employee drug testing programs shall be established taking account of the following:

(i) The Contractor shall establish a program that provides for testing for the use of illegal drugs by employees in sensitive positions. The extent of and criteria for such testing shall be determined by the Contractor based on considerations that include the nature of the work being performed under the contract, the employee's duties, and efficient use of Contractor resources, and the risks to health, safety, or national security that could result from the failure of an employee adequately to discharge his or her position.

(ii) In addition, the Contractor may establish a program for employee drug testing--

(A) When there is a reasonable suspicion that an employee uses illegal drugs; or

(B) When an employee has been involved in an accident or unsafe practice;

(C) As part of or as a follow-up to counseling or rehabilitation for illegal drug use;

(D) As part of a voluntary employee drug testing program.

(iii) The Contractor may establish a program to test applicants for employment for illegal drug use.

(iv) For the purpose of administering this clause, testing for illegal drugs may be limited to those substances for which testing is prescribed by section 2.1 of subpart B of the "Mandatory Guidelines for Federal Workplace Drug Testing Programs" (53 FR 11980 (April 11, 1988), issued by the Department of Health and Human Services.

(d) Contractors shall adopt appropriate personnel procedures to deal with employees who are found to be using drugs illegally. Contractors shall not allow any employee to remain on duty or perform in a sensitive position who is found to use illegal drugs until such times as the Contractor, in accordance with procedures established by the Contractor, determines that the employee may perform in such a position.

(e) The provisions of this clause pertaining to drug testing program shall not apply to the extent that are inconsistent with state or local law, or with an existing collective bargaining agreement; provided that with respect to the latter, the Contractor agrees those issues that are in conflict will be a subject of negotiation at the next collective bargaining session.

(End of clause)

## 52.225-9 BUY AMERICAN ACT--BALANCE OF PAYMENTS PROGRAM--CONSTRUCTION MATERIALS (FEB 2000)

(a) Definitions. As used in this clause--

Component means any article, material, or supply incorporated directly into construction materials.

Construction material means an article, material, or supply brought to the construction site by the Contractor or a subcontractor for incorporation into the building or work. The term also includes an item brought to the site preassembled from articles, materials, or supplies. However, emergency life safety systems, such as emergency lighting, fire alarm, and audio evacuation systems, that are discrete systems incorporated into a public building or work and that are produced as complete systems, are evaluated as a single and distinct construction material regardless of when or how the individual parts or components of those systems are delivered to the construction site. Materials purchased directly by the Government are supplies, not construction material.

Cost of components means--

(1) For components purchased by the Contractor, the acquisition cost, including transportation costs to the place of incorporation into the end product (whether or not such costs are paid to a domestic firm), and any applicable duty (whether or not a duty-free entry certificate is issued); or

(2) For components manufactured by the Contractor, all costs associated with the manufacture of the component, including transportation costs as described in paragraph (1) of this definition, plus allocable overhead costs, but excluding profit. Cost of components does not include any costs associated with the manufacture of the end product.

Domestic construction material means--

(1) An unmanufactured construction material mined or produced in the United States; or

(2) A construction material manufactured in the United States, if the cost of its components mined, produced, or manufactured in the United States exceeds 50 percent of the cost of all its components. Components of foreign origin of the same class or kind for which nonavailability determinations have been made are treated as domestic.

Foreign construction material means a construction material other than a domestic construction material.

United States means the 50 States and the District of Columbia, U.S. territories and possessions, Puerto Rico, the Northern Mariana Islands, and any other place subject to U.S. jurisdiction, but does not include leased bases.

(b) Domestic preference. (1) This clause implements the Buy American Act (41 U.S.C. 10a-10d) and the Balance of Payments Program by providing a preference for domestic construction material. The Contractor shall use only domestic construction material in performing this contract, except as provided in paragraphs (b)(2) and (b)(3) of this clause.

(2) This requirement does not apply to the construction material or components listed by the Government as follows: none.

(3) The Contracting Officer may add other foreign construction material to the list in paragraph (b)(2) of this clause if the Government determines that

(i) The cost of domestic construction material would be unreasonable. The cost of a particular domestic construction material subject to the requirements of the Buy American Act is unreasonable when the cost of such material exceeds the cost of foreign material by more than 6 percent. For determination of unreasonable cost under the Balance of Payments Program, the Contracting Officer will use a factor of 50 percent;

(ii) The application of the restriction of the Buy American Act or Balance of Payments Program to a particular construction material would be impracticable or inconsistent with the public interest; or

(iii) The construction material is not mined, produced, or manufactured in the United States in sufficient and reasonably available commercial quantities of a satisfactory quality.

(c) Request for determination of inapplicability of the Buy American Act or Balance of Payments Program. (1)(i) Any Contractor request to use foreign construction material in accordance with paragraph (b)(3) of this clause shall include adequate information for Government evaluation of the request, including--

(A) A description of the foreign and domestic construction materials;

(B) Unit of measure;

(C) Quantity;

(D) Price;

(E) Time of delivery or availability;

(F) Location of the construction project;

(G) Name and address of the proposed supplier; and

(H) A detailed justification of the reason for use of foreign construction materials cited in accordance with paragraph (b)(3) of this clause.

(ii) A request based on unreasonable cost shall include a reasonable survey of the market and a completed price comparison table in the format in paragraph (d) of this clause.

(iii) The price of construction material shall include all delivery costs to the construction site and any applicable duty (whether or not a duty-free certificate may be issued).

(iv) Any Contractor request for a determination submitted after contract award shall explain why the Contractor could not reasonably foresee the need for such determination and could not have requested the determination before contract award. If the Contractor does not submit a satisfactory explanation, the Contracting Officer need not make a determination.

(2) If the Government determines after contract award that an exception to the Buy American Act or Balance of Payments Program applies and the Contracting Officer and the Contractor negotiate adequate consideration, the Contracting Officer will modify the contract to allow use of the foreign construction material. However, when the basis for the exception is the unreasonable price of a domestic construction material, adequate consideration is not less than the differential established in paragraph (b)(3)(i) of this clause.

(3) Unless the Government determines that an exception to the Buy American Act or Balance of Payments Program applies, use of foreign construction material is noncompliant with the Buy American Act or Balance of Payments Program.

(d) Data. To permit evaluation of requests under paragraph (c) of this clause based on unreasonable cost, the Contractor shall include the following information and any applicable supporting data based on the survey of suppliers:

Foreign and Domestic Construction Materials Price Comparison

Construction material description	Unit of measure	Quantity	Price (dollars) \1\
Item 1			
Foreign construction material....			
Domestic construction material...			
Item 2			
Foreign construction material....			
Domestic construction material...			

Include all delivery costs to the construction site and any applicable duty (whether or not a duty-free entry certificate is issued).

List name, address, telephone number, and contact for suppliers surveyed. Attach copy of response; if oral, attach summary.

Include other applicable supporting information.

(End of clause)

#### 52.227-1 AUTHORIZATION AND CONSENT (JUL 1995)

(a) The Government authorizes and consents to all use and manufacture, in performing this contract or any subcontract at any tier, of any invention described in and covered by a United States patent (1) embodied in the structure or composition of any article the delivery of which is accepted by the Government under this contract or (2) used in machinery, tools, or methods whose use necessarily results from compliance by the Contractor or a subcontractor with (i) specifications or written provisions forming a part of this contract or (ii) specific written instructions given by the Contracting Officer directing the manner of performance. The entire liability to the Government for infringement of a patent of the United States shall be determined solely by the provisions of the indemnity clause, if any, included in this contract or any subcontract hereunder (including any lower-tier subcontract), and the Government assumes liability for all other infringement to the extent of the authorization and consent hereinabove granted.

(b) The Contractor agrees to include, and require inclusion of, this clause, suitably modified to identify the parties, in all subcontracts at any tier for supplies or services (including construction, architect-engineer services, and materials, supplies, models, samples, and design or testing services expected to exceed the simplified acquisition threshold (however, omission of this clause from any subcontract, including those at or below the simplified acquisition threshold, does not affect this authorization and consent.)

#### 52.227-4 PATENT INDEMNITY--CONSTRUCTION CONTRACTS (APR 1984)

Except as otherwise provided, the Contractor agrees to indemnify the Government and its officers, agents, and employees against liability, including costs and expenses, for infringement upon any United States patent (except a patent issued upon an application that is now or may hereafter be withheld from issue pursuant to a Secrecy Order under 35 U.S.C. 181) arising out of performing this contract or out of the use or disposal by or for the account of the Government of supplies furnished or work performed under this contract.

#### 252.227-7033 RIGHTS IN SHOP DRAWINGS (APR 1966)

(a) Shop drawings for construction means drawings, submitted to the Government by the Construction Contractor, subcontractor or any lower-tier subcontractor pursuant to a construction contract, showing in detail (i) the proposed fabrication and assembly of structural elements and (ii) the installation (i.e., form, fit, and attachment details) of materials or equipment. The Government may duplicate, use, and disclose in any manner and for any purpose shop drawings delivered under this contract.

(b) This clause, including this paragraph (b), shall be included in all subcontracts hereunder at any tier.

#### 52.228-2 ADDITIONAL BOND SECURITY (OCT 1997)

The Contractor shall promptly furnish additional security required to protect the Government and persons supplying labor or materials under this contract if--

(a) Any surety upon any bond, or issuing financial institution for other security, furnished with this contract becomes unacceptable to the Government.

(b) Any surety fails to furnish reports on its financial condition as required by the Government;

(c) The contract price is increased so that the penal sum of any bond becomes inadequate in the opinion of the Contracting Officer; or

(d) An irrevocable letter of credit (ILC) used as security will expire before the end of the period of required security. If the Contractor does not furnish an acceptable extension or replacement ILC, or other acceptable substitute, at least 30 days before an ILC's scheduled expiration, the Contracting officer has the right to immediately draw on the ILC.

#### 52.228-12 PROSPECTIVE SUBCONTRACTOR REQUESTS FOR BONDS. (OCT 1995)

In accordance with Section 806(a)(3) of Pub. L. 102-190, as amended by Sections 2091 and 8105 of Pub. L. 103-355, upon the request of a prospective subcontractor or supplier offering to furnish labor or material for the performance of this contract for which a payment bond has been furnished to the Government pursuant to the Miller Act, the Contractor shall promptly provide a copy of such payment bond to the requester.

#### 52.229-3 FEDERAL, STATE, AND LOCAL TAXES (JAN 1991)

(a) "Contract date," as used in this clause, means the date set for bid opening or, if this is a negotiated contract or a modification, the effective date of this contract or modification.

"All applicable Federal, State, and local taxes and duties," as used in this clause, means all taxes and duties, in effect on the contract date, that the taxing authority is imposing and collecting on the transactions or property covered by this contract.

"After-imposed Federal tax," as used in this clause, means any new or increased Federal excise tax or duty, or tax that was exempted or excluded on the contract date but whose exemption was later revoked or reduced during the contract period, on the transactions or property covered by this contract that the Contractor is required to pay or bear as the result of legislative, judicial, or administrative action taking effect after the contract date. It does not include social security tax or other employment taxes.

"After-relieved Federal tax," as used in this clause, means any amount of Federal excise tax or duty, except social security or other employment taxes, that would otherwise have been payable on the transactions or property covered by this contract, but which the Contractor is not required to pay or bear, or for which the Contractor obtains a refund or drawback, as the result of legislative, judicial, or administrative action taking effect after the contract date.

(b) The contract price includes all applicable Federal, State, and local taxes and duties.

(c) The contract price shall be increased by the amount of any after-imposed Federal tax, provided the Contractor warrants in writing that no amount for such newly imposed Federal excise tax or duty or rate increase was included in the contract price, as a contingency reserve or otherwise.

(d) The contract price shall be decreased by the amount of any after-relieved Federal tax.

(e) The contract price shall be decreased by the amount of any Federal excise tax or duty, except social security or other employment taxes, that the Contractor is required to pay or bear, or does not obtain a refund of, through the Contractor's fault, negligence, or failure to follow instructions of the Contracting Officer.

(f) No adjustment shall be made in the contract price under this clause unless the amount of the adjustment exceeds \$250.

(g) The Contractor shall promptly notify the Contracting Officer of all matters relating to any Federal excise tax or duty that reasonably may be expected to result in either an increase or decrease in the contract price and shall take appropriate action as the Contracting Officer directs.

(h) The Government shall, without liability, furnish evidence appropriate to establish exemption from any Federal, State, or local tax when the Contractor requests such evidence and a reasonable basis exists to sustain the exemption.

(End of clause)

#### 252.231-7000 SUPPLEMENTAL COST PRINCIPLES (DEC 1991)

When the allowability of costs under this contract is determined in accordance with part 31 of the Federal Acquisition Regulation (FAR), allowability shall also be determined in accordance with part 231 of the Defense FAR Supplement, in effect on the date of this contract.

#### 52.232-5 PAYMENTS UNDER FIXED-PRICE CONSTRUCTION CONTRACTS (MAY 1997)

(a) Payment of price. The Government shall pay the Contractor the contract price as provided in this contract.

(b) Progress payments. The Government shall make progress payments monthly as the work proceeds, or at more frequent intervals as determined by the Contracting Officer, on estimates of work accomplished which meets the standards of quality established under the contract, as approved by the Contracting Officer.

(1) The Contractor's request for progress payments shall include the following substantiation:

(i) An itemization of the amounts requested, related to the various elements of work required by the contract covered by the payment requested.

(ii) A listing of the amount included for work performed by each subcontractor under the contract.

(iii) A listing of the total amount of each subcontract under the contract.

(iv) A listing of the amounts previously paid to each such subcontractor under the contract.

(v) Additional supporting data in a form and detail required by the Contracting Officer.

(2) In the preparation of estimates, the Contracting Officer may authorize material delivered on the site and preparatory work done to be taken into consideration. Material delivered to the Contractor at locations other than the site also may be taken into consideration if--

(i) Consideration is specifically authorized by this contract; and

(ii) The Contractor furnishes satisfactory evidence that it has acquired title to such material and that the material will be used to perform this contract.

(c) Contractor certification. Along with each request for progress payments, the Contractor shall furnish the following certification, or payment shall not be made: (However, if the Contractor elects to delete paragraph (c)(4) from the certification, the certification is still acceptable.)

I hereby certify, to the best of my knowledge and belief, that--

(1) The amounts requested are only for performance in accordance with the specifications, terms, and conditions of the contract;

(2) Payments to subcontractors and suppliers have been made from previous payments received under the contract, and timely payments will be made from the proceeds of the payment covered by this certification, in accordance with subcontract agreements and the requirements of chapter 39 of Title 31, United States Code;

(3) This request for progress payments does not include any amounts which the prime contractor intends to withhold or retain from a subcontractor or supplier in accordance with the terms and conditions of the subcontract; and

(4) This certification is not to be construed as final acceptance of a subcontractor's performance.

\_\_\_\_\_  
(Name)

\_\_\_\_\_  
(Title)

\_\_\_\_\_  
(Date)

(d) Refund of unearned amounts. If the Contractor, after making a certified request for progress payments, discovers that a portion or all of such request constitutes a payment for performance by the Contractor that fails to conform to the specifications, terms, and conditions of this contract (hereinafter referred to as the "unearned amount"), the Contractor shall--

(1) Notify the Contracting Officer of such performance deficiency; and

(2) Be obligated to pay the Government an amount (computed by the Contracting Officer in the manner provided in paragraph (j) of this clause) equal to interest on the unearned amount from the 8th day after the date of receipt of the unearned amount until--

(i) The date the Contractor notifies the Contracting Officer that the performance deficiency has been corrected; or

(ii) The date the Contractor reduces the amount of any subsequent certified request for progress payments by an amount equal to the unearned amount.

(e) Retainage. If the Contracting Officer finds that satisfactory progress was achieved during any period for which a progress payment is to be made, the Contracting Officer shall authorize payment to be made in full. However, if satisfactory progress has not been made, the Contracting Officer may retain a maximum of 10 percent of the amount of the payment until satisfactory progress is achieved. When the work is substantially complete, the Contracting Officer may retain from previously withheld funds and future progress payments that amount the Contracting Officer considers adequate for protection of the Government and shall release to the Contractor all the remaining withheld funds. Also, on completion and acceptance of each separate building, public work, or other division of the contract, for which the price is stated separately in the contract, payment shall be made for the completed work without retention of a percentage.

(f) Title, liability, and reservation of rights. All material and work covered by progress payments made shall, at the time of payment, become the sole property of the Government, but this shall not be construed as--

(1) Relieving the Contractor from the sole responsibility for all material and work upon which payments have been made or the restoration of any damaged work; or

(2) Waiving the right of the Government to require the fulfillment of all of the terms of the contract.

(g) Reimbursement for bond premiums. In making these progress payments, the Government shall, upon request, reimburse the Contractor for the amount of premiums paid for performance and payment bonds (including coinsurance and reinsurance agreements, when applicable) after the Contractor has furnished evidence of full

payment to the surety. The retainage provisions in paragraph (e) of this clause shall not apply to that portion of progress payments attributable to bond premiums.

(h) Final payment. The Government shall pay the amount due the Contractor under this contract after--

(1) Completion and acceptance of all work;

(2) Presentation of a properly executed voucher; and

(3) Presentation of release of all claims against the Government arising by virtue of this contract, other than claims, in stated amounts, that the Contractor has specifically excepted from the operation of the release. A release may also be required of the assignee if the Contractor's claim to amounts payable under this contract has been assigned under the Assignment of Claims Act of 1940 (31 U.S.C. 3727 and 41 U.S.C. 15).

(i) Limitation because of undefinitized work. Notwithstanding any provision of this contract, progress payments shall not exceed 80 percent on work accomplished on undefinitized contract actions. A "contract action" is any action resulting in a contract, as defined in FAR Subpart 2.1, including contract modifications for additional supplies or services, but not including contract modifications that are within the scope and under the terms of the contract, such as contract modifications issued pursuant to the Changes clause, or funding and other administrative changes.

(j) Interest computation on unearned amounts. In accordance with 31 U.S.C. 3903(c)(1), the amount payable under subparagraph (d)(2) of this clause shall be--

(1) Computed at the rate of average bond equivalent rates of 91-day Treasury bills auctioned at the most recent auction of such bills prior to the date the Contractor receives the unearned amount; and

(2) Deducted from the next available payment to the Contractor.

#### 52.232-17 INTEREST (JUNE 1996)

(a) Except as otherwise provided in this contract under a Price Reduction for Defective Cost or Pricing Data clause or a Cost Accounting Standards clause, all amounts that become payable by the Contractor to the Government under this contract (net of any applicable tax credit under the Internal Revenue Code (26 U.S.C. 1481)) shall bear simple interest from the date due until paid unless paid within 30 days of becoming due. The interest rate shall be the interest rate established by the Secretary of the Treasury as provided in Section 12 of the Contract Disputes Act of 1978 (Public Law 95-563), which is applicable to the period in which the amount becomes due, as provided in paragraph (b) of this clause, and then at the rate applicable for each six-month period as fixed by the Secretary until the amount is paid. reproduce, prepare derivative works, distribute copies to the public, and (b) Amounts shall be due at the earliest of the following dates:

(1) The date fixed under this contract.

(2) The date of the first written demand for payment consistent with this contract, including any demand resulting from a default termination.

(3) The date the Government transmits to the Contractor a proposed supplemental agreement to confirm completed negotiations establishing the amount of debt.

(4) If this contract provides for revision of prices, the date of written notice to the Contractor stating the amount of refund payable in connection with a pricing proposal or a negotiated pricing agreement not confirmed by contract modification.



(c) The interest charge made under this clause may be reduced under the procedures prescribed in 32.614-2 of the Federal Acquisition Regulation in effect on the date of this contract.

#### 52.232-23 ASSIGNMENT OF CLAIMS (JAN 1986)

(a) The Contractor, under the Assignment of Claims Act, as amended, 31 U.S.C. 3727, 41 U.S.C. 15 (hereafter referred to as "the Act"), may assign its rights to be paid amounts due or to become due as a result of the performance of this contract to a bank, trust company, or other financing institution, including any Federal lending agency. The assignee under such an assignment may thereafter further assign or reassign its right under the original assignment to any type of financing institution described in the preceding sentence.

(b) Any assignment or reassignment authorized under the Act and this clause shall cover all unpaid amounts payable under this contract, and shall not be made to more than one party, except that an assignment or reassignment may be made to one party as agent or trustee for two or more parties participating in the financing of this contract.

(c) The Contractor shall not furnish or disclose to any assignee under this contract any classified document (including this contract) or information related to work under this contract until the Contracting Officer authorizes such action in writing.

#### 52.232-27 PROMPT PAYMENT FOR CONSTRUCTION CONTRACTS (JUN 1997)

Notwithstanding any other payment terms in this contract, the Government will make invoice payments and contract financing payments under the terms and conditions specified in this clause. Payment shall be considered as being made on the day a check is dated or the date of an electronic funds transfer. Definitions of pertinent terms are set forth in section 32.902 of the Federal Acquisition Regulation. All days referred to in this clause are calendar days, unless otherwise specified. (However, see subparagraph (a)(3) concerning payments due on Saturdays, Sundays, and legal holidays.)

(a) Invoice payments. (1) Types of invoice payments. For purposes of this clause, there are several types of invoice payments that may occur under this contract, as follows:

(i) Progress payments, if provided for elsewhere in this contract, based on Contracting Officer approval of the estimated amount and value of work or services performed, including payments for reaching milestones in any project:

(A) The due date for making such payments shall be 14 days after receipt of the payment request by the designated billing office. If the designated billing office fails to annotate the payment request with the actual date of receipt at the time of receipt, the payment due date shall be the 14th day after the date of the Contractor's payment request, provided a proper payment request is received and there is no disagreement over quantity, quality, or Contractor compliance with contract requirements.

(B) The due date for payment of any amounts retained by the Contracting Officer in accordance with the clause at 52.232-5, Payments Under Fixed-Price Construction Contracts, shall be as specified in the contract or, if not specified, 30 days after approval for release to the Contractor by the Contracting Officer.

(ii) Final payments based on completion and acceptance of all work and presentation of release of all claims against the Government arising by virtue of the contract, and payments for partial deliveries that have been accepted by the Government (e.g., each separate building, public work, or other division of the contract for which the price is stated separately in the contract):

(A) The due date for making such payments shall be either the 30th day after receipt by the designated billing office

of a proper invoice from the Contractor, or the 30th day after Government acceptance of the work or services completed by the Contractor, whichever is later. If the designated billing office fails to annotate the invoice with the date of actual receipt at the time of receipt, the invoice payment due date shall be the 30th day after the date of the Contractor's invoice, provided a proper invoice is received and there is no disagreement over quantity, quality, or Contractor compliance with contract requirements.

(B) On a final invoice where the payment amount is subject to contract settlement actions (e.g., release of claims), acceptance shall be deemed to have occurred on the effective date of the contract settlement.

(2) Contractor's invoice. The Contractor shall prepare and submit invoices to the designated billing office specified in the contract. A proper invoice must include the items listed in subdivisions (a)(2)(i) through (a)(2)(ix) of this clause. If the invoice does not comply with these requirements, it shall be returned within 7 days after the date the designated billing office received the invoice, with a statement of the reasons why it is not a proper invoice. Untimely notification will be taken into account in computing any interest penalty owed the Contractor in the manner described in subparagraph (a)(4) of this clause.

(i) Name and address of the Contractor.

(ii) Invoice date. (The Contractor is encouraged to date invoices as close as possible to the date of mailing or transmission.)

(iii) Contract number or other authorization for work or services performed (including order number and contract line item number).

(iv) Description of work or services performed.

(v) Delivery and payment terms (e.g., prompt payment discount terms).

(vi) Name and address of Contractor official to whom payment is to be sent (must be the same as that in the contract or in a proper notice of assignment).

(vii) Name (where practicable), title, phone number, and mailing address of person to be notified in the event of a defective invoice.

(viii) For payments described in subdivision (a)(1)(i) of this clause, substantiation of the amounts requested and certification in accordance with the requirements of the clause at 52.232-5, Payments Under Fixed-Price Construction Contracts.

(ix) Any other information or documentation required by the contract.

(x) While not required, the Contractor is strongly encouraged to assign an identification number to each invoice.

(3) Interest penalty. An interest penalty shall be paid automatically by the designated payment office, without request from the Contractor, if payment is not made by the due date and the conditions listed in subdivisions (a)(3)(i) through (a)(3)(iii) of this clause are met, if applicable. However, when the due date falls on a Saturday, Sunday, or legal holiday when Federal Government offices are closed and Government business is not expected to be conducted, payment may be made on the following business day without incurring a late payment interest penalty.

(i) A proper invoice was received by the designated billing office.

(ii) A receiving report or other Government documentation authorizing payment was processed and there was no disagreement over quantity, quality, Contractor compliance with any contract term or condition, or requested progress payment amount.

(iii) In the case of a final invoice for any balance of funds due the Contractor for work or services performed, the amount was not subject to further contract settlement actions between the Government and the Contractor.

(4) Computing penalty amount. The interest penalty shall be at the rate established by the Secretary of the Treasury under section 12 of the Contract Disputes Act of 1978 (41 U.S.C. 611) that is in effect on the day after the due date, except where the interest penalty is prescribed by other governmental authority (e.g., tariffs). This rate is referred to as the "Renegotiation Board Interest Rate," and it is published in the Federal Register semiannually on or about January 1 and July 1. The interest penalty shall accrue daily on the invoice principal payment amount approved by the Government until the payment date of such approved principal amount; and will be compounded in 30-day increments inclusive from the first day after the due date through the payment date. That is, interest accrued at the end of any 30-day period will be added to the approved invoice principal payment amount and will be subject to interest penalties if not paid in the succeeding 30-day period. If the designated billing office failed to notify the Contractor of a defective invoice within the periods prescribed in subparagraph (a)(2) of this clause, the due date on the corrected invoice will be adjusted by subtracting from such date the number of days taken beyond the prescribed notification of defects period. Any interest penalty owed the Contractor will be based on this adjusted due date. Adjustments will be made by the designated payment office for errors in calculating interest penalties.

(i) For the sole purpose of computing an interest penalty that might be due the Contractor for payments described in subdivision (a)(1)(ii) of this clause, Government acceptance or approval shall be deemed to have occurred constructively on the 7th day after the Contractor has completed the work or services in accordance with the terms and conditions of the contract. In the event that actual acceptance or approval occurs within the constructive acceptance or approval period, the determination of an interest penalty shall be based on the actual date of acceptance or approval. Constructive acceptance or constructive approval requirements do not apply if there is a disagreement over quantity, quality, or Contractor compliance with a contract provision. These requirements also do not compel Government officials to accept work or services, approve Contractor estimates, perform contract administration functions, or make payment prior to fulfilling their responsibilities.

(ii) The following periods of time will not be included in the determination of an interest penalty:

(A) The period taken to notify the Contractor of defects in invoices submitted to the Government, but this may not exceed 7 days.

(B) The period between the defects notice and resubmission of the corrected invoice by the Contractor.

(C) For incorrect electronic funds transfer (EFT) information, in accordance with the EFT clause of this contract.

(iii) Interest penalties will not continue to accrue after the filing of a claim for such penalties under the clause at 52.233-1, Disputes, or for more than 1 year. Interest penalties of less than \$1 need not be paid.

(iv) Interest penalties are not required on payment delays due to disagreement between the Government and the Contractor over the payment amount or other issues involving contract compliance, or on amounts temporarily withheld or retained in accordance with the terms of the contract. Claims involving disputes, and any interest that may be payable, will be resolved in accordance with the clause at 52.233-1, Disputes.

(5) Prompt payment discounts. An interest penalty also shall be paid automatically by the designated payment office, without request from the Contractor, if a discount for prompt payment is taken improperly. The interest penalty will be calculated on the amount of discount taken for the period beginning with the first day after the end of the discount period through the date when the Contractor is paid.

(6) Additional interest penalty. (i) If this contract was awarded on or after October 1, 1989, a penalty amount, calculated in accordance with subdivision (a)(6)(iii) of this clause, shall be paid in addition to the interest penalty amount if the Contractor--

(A) Is owed an interest penalty of \$1 or more;

(B) Is not paid the interest penalty within 10 days after the date the invoice amount is paid; and

(C) Makes a written demand to the designated payment office for additional penalty payment, in accordance with subdivision (a)(6)(ii) of this clause, postmarked not later than 40 days after the date the invoice amount is paid.

(ii)(A) Contractors shall support written demands for additional penalty payments with the following data. No additional data shall be required. Contractors shall--

(1) Specifically assert that late payment interest is due under a specific invoice, and request payment of all overdue late payment interest penalty and such additional penalty as may be required;

(2) Attach a copy of the invoice on which the unpaid late payment interest was due; and

(3) State that payment of the principal has been received, including the date of receipt.

(B) Demands must be postmarked on or before the 40th day after payment was made, except that--

(1) If the postmark is illegible or nonexistent, the demand must have been received and annotated with the date of receipt by the designated payment office on or before the 40th day after payment was made; or

(2) If the postmark is illegible or nonexistent and the designated payment office fails to make the required annotation, the demand's validity will be determined by the date the Contractor has placed on the demand; provided such date is no later than the 40th day after payment was made.

(iii)(A) The additional penalty shall be equal to 100 percent of any original late payment interest penalty, except--

(1) The additional penalty shall not exceed \$5,000;

(2) The additional penalty shall never be less than \$25; and

(3) No additional penalty is owed if the amount of the underlying interest penalty is less than \$1.

(B) If the interest penalty ceases to accrue in accordance with the limits stated in subdivision (a)(4)(iii) of this clause, the amount of the additional penalty shall be calculated on the amount of interest penalty that would have accrued in the absence of these limits, subject to the overall limits on the additional penalty specified in subdivision (a)(6)(iii)(A) of this clause.

(C) For determining the maximum and minimum additional penalties, the test shall be the interest penalty due on each separate payment made for each separate contract. The maximum and minimum additional penalty shall not be based upon individual invoices unless the invoices are paid separately. Where payments are consolidated for disbursing purposes, the maximum and minimum additional penalty determination shall be made separately for each contract therein.

(D) The additional penalty does not apply to payments regulated by other Government regulations (e.g., payments under utility contracts subject to tariffs and regulation).

(b) Contract financing payments. (1) Due dates for recurring financing payments. If this contract provides for contract financing, requests for payment shall be submitted to the designated billing office as specified in this contract or as directed by the Contracting Officer. Contract financing payments shall be made on the [insert day as prescribed by Agency head; if not prescribed, insert 30th day] day after receipt of a proper contract financing request by the designated billing office. In the event that an audit or other review of a specific financing request is required to ensure compliance with the terms and conditions of the contract, the designated payment office is not compelled to make payment by the due date specified.

(2) Due dates for other contract financing. For advance payments, loans, or other arrangements that do not involve

recurring submissions of contract financing requests, payment shall be made in accordance with the corresponding contract terms or as directed by the Contracting Officer.

(3) Interest penalty not applicable. Contract financing payments shall not be assessed an interest penalty for payment delays.

(c) Subcontract clause requirements. The Contractor shall include in each subcontract for property or services (including a material supplier) for the purpose of performing this contract the following:

(1) Prompt payment for subcontractors. A payment clause that obligates the Contractor to pay the subcontractor for satisfactory performance under its subcontract not later than 7 days from receipt of payment out of such amounts as are paid to the Contractor under this contract.

(2) Interest for subcontractors. An interest penalty clause that obligates the Contractor to pay to the subcontractor an interest penalty for each payment not made in accordance with the payment clause--

(i) For the period beginning on the day after the required payment date and ending on the date on which payment of the amount due is made; and

(ii) Computed at the rate of interest established by the Secretary of the Treasury, and published in the Federal Register, for interest payments under section 12 of the Contract Disputes Act of 1978 (41 U.S.C. 611) in effect at the time the Contractor accrues the obligation to pay an interest penalty.

(3) Subcontractor clause flowdown. A clause requiring each subcontractor to include a payment clause and an interest penalty clause conforming to the standards set forth in subparagraphs (c)(1) and (c)(2) of this clause in each of its subcontracts, and to require each of its subcontractors to include such clauses in their subcontracts with each lower-tier subcontractor or supplier.

(d) Subcontract clause interpretation. The clauses required by paragraph (c) of this clause shall not be construed to impair the right of the Contractor or a subcontractor at any tier to negotiate, and to include in their subcontract, provisions that--

(1) Retainage permitted. Permit the Contractor or a subcontractor to retain (without cause) a specified percentage of each progress payment otherwise due to a subcontractor for satisfactory performance under the subcontract without incurring any obligation to pay a late payment interest penalty, in accordance with terms and conditions agreed to by the parties to the subcontract, giving such recognition as the parties deem appropriate to the ability of a subcontractor to furnish a performance bond and a payment bond;

(2) Withholding permitted. Permit the Contractor or subcontractor to make a determination that part or all of the subcontractor's request for payment may be withheld in accordance with the subcontract agreement; and

(3) Withholding requirements. Permit such withholding without incurring any obligation to pay a late payment penalty if--

(i) A notice conforming to the standards of paragraph (g) of this clause previously has been furnished to the subcontractor; and

(ii) A copy of any notice issued by a Contractor pursuant to subdivision (d)(3)(i) of this clause has been furnished to the Contracting Officer.

(e) Subcontractor withholding procedures. If a Contractor, after making a request for payment to the Government but before making a payment to a subcontractor for the subcontractor's performance covered by the payment request, discovers that all or a portion of the payment otherwise due such subcontractor is subject to withholding from the subcontractor in accordance with the subcontract agreement, then the Contractor shall--

(1) Subcontractor notice. Furnish to the subcontractor a notice conforming to the standards of paragraph (g) of this clause as soon as practicable upon ascertaining the cause giving rise to a withholding, but prior to the due date for subcontractor payment;

(2) Contracting Officer notice. Furnish to the Contracting Officer, as soon as practicable, a copy of the notice furnished to the subcontractor pursuant to subparagraph (e)(1) of this clause;

(3) Subcontractor progress payment reduction. Reduce the subcontractor's progress payment by an amount not to exceed the amount specified in the notice of withholding furnished under subparagraph (e)(1) of this clause;

(4) Subsequent subcontractor payment. Pay the subcontractor as soon as practicable after the correction of the identified subcontract performance deficiency, and--

(i) Make such payment within--

(A) Seven days after correction of the identified subcontract performance deficiency (unless the funds therefor must be recovered from the Government because of a reduction under subdivision (e)(5)(i)) of this clause; or

(B) Seven days after the Contractor recovers such funds from the Government; or

(ii) Incur an obligation to pay a late payment interest penalty computed at the rate of interest established by the Secretary of the Treasury, and published in the Federal Register, for interest payments under section 12 of the Contracts Disputes Act of 1978 (41 U.S.C. 611) in effect at the time the Contractor accrues the obligation to pay an interest penalty;

(5) Notice to Contracting Officer. Notify the Contracting Officer upon--

(i) Reduction of the amount of any subsequent certified application for payment; or

(ii) Payment to the subcontractor of any withheld amounts of a progress payment, specifying--

(A) The amounts withheld under subparagraph (e)(1) of this clause; and

(B) The dates that such withholding began and ended; and

(6) Interest to Government. Be obligated to pay to the Government an amount equal to interest on the withheld payments (computed in the manner provided in 31 U.S.C. 3903(c)(1)), from the 8th day after receipt of the withheld amounts from the Government until--

(i) The day the identified subcontractor performance deficiency is corrected; or

(ii) The date that any subsequent payment is reduced under subdivision (e)(5)(i) of this clause.

(f) Third-party deficiency reports. (1) Withholding from subcontractor. If a Contractor, after making payment to a first-tier subcontractor, receives from a supplier or subcontractor of the first-tier subcontractor (hereafter referred to as a "second-tier subcontractor") a written notice in accordance with section 2 of the Act of August 24, 1935 (40 U.S.C. 270b, Miller Act), asserting a deficiency in such first-tier subcontractor's performance under the contract for which the Contractor may be ultimately liable, and the Contractor determines that all or a portion of future payments otherwise due such first-tier subcontractor is subject to withholding in accordance with the subcontract agreement, the Contractor may, without incurring an obligation to pay an interest penalty under subparagraph (e)(6) of this clause--

(i) Furnish to the first-tier subcontractor a notice conforming to the standards of paragraph (g) of this clause as soon as practicable upon making such determination; and

(ii) Withhold from the first-tier subcontractor's next available progress payment or payments an amount not to exceed the amount specified in the notice of withholding furnished under subdivision (f)(1)(i) of this clause.

(2) Subsequent payment or interest charge. As soon as practicable, but not later than 7 days after receipt of satisfactory written notification that the identified subcontract performance deficiency has been corrected, the Contractor shall--

(i) Pay the amount withheld under subdivision (f)(1)(ii) of this clause to such first-tier subcontractor; or

(ii) Incur an obligation to pay a late payment interest penalty to such first-tier subcontractor computed at the rate of interest established by the Secretary of the Treasury, and published in the Federal Register, for interest payments under section 12 of the Contracts Disputes Act of 1978 (41 U.S.C. 611) in effect at the time the Contractor accrues the obligation to pay an interest penalty.

(g) Written notice of subcontractor withholding. A written notice of any withholding shall be issued to a subcontractor (with a copy to the Contracting Officer of any such notice issued by the Contractor), specifying--

(1) The amount to be withheld;

(2) The specific causes for the withholding under the terms of the subcontract; and

(3) The remedial actions to be taken by the subcontractor in order to receive payment of the amounts withheld.

(h) Subcontractor payment entitlement. The Contractor may not request payment from the Government of any amount withheld or retained in accordance with paragraph (d) of this clause until such time as the Contractor has determined and certified to the Contracting Officer that the subcontractor is entitled to the payment of such amount.

(i) Prime-subcontractor disputes. A dispute between the Contractor and subcontractor relating to the amount or entitlement of a subcontractor to a payment or a late payment interest penalty under a clause included in the subcontract pursuant to paragraph (c) of this clause does not constitute a dispute to which the United States is a party. The United States may not be interpleaded in any judicial or administrative proceeding involving such a dispute.

(j) Preservation of prime-subcontractor rights. Except as provided in paragraph (i) of this clause, this clause shall not limit or impair any contractual, administrative, or judicial remedies otherwise available to the Contractor or a subcontractor in the event of a dispute involving late payment or nonpayment by the Contractor or deficient subcontract performance or nonperformance by a subcontractor.

(k) Non-recourse for prime contractor interest penalty. The Contractor's obligation to pay an interest penalty to a subcontractor pursuant to the clauses included in a subcontract under paragraph (c) of this clause shall not be construed to be an obligation of the United States for such interest penalty. A cost-reimbursement claim may not include any amount for reimbursement of such interest penalty.

#### 52.232-33 PAYMENT BY ELECTRONIC FUNDS TRANSFER—CENTRAL CONTRACTOR REGISTRATION (MAY 1999)

(a) Method of payment. (1) All payments by the Government under this contract shall be made by electronic funds transfer (EFT), except as provided in paragraph (a)(2) of this clause. As used in this clause, the term "EFT" refers to the funds transfer and may also include the payment information transfer.

(2) In the event the Government is unable to release one or more payments by EFT, the Contractor agrees to either--

(i) Accept payment by check or some other mutually agreeable method of payment; or

(ii) Request the Government to extend the payment due date until such time as the Government can make payment by EFT (but see paragraph (d) of this clause).

(b) Contractor's EFT information. The Government shall make payment to the Contractor using the EFT information contained in the Central Contractor Registration (CCR) database. In the event that the EFT information changes, the Contractor shall be responsible for providing the updated information to the CCR database.

(c) Mechanisms for EFT payment. The Government may make payment by EFT through either the Automated Clearing House (ACH) network, subject to the rules of the National Automated Clearing House Association, or the Fedwire Transfer System. The rules governing Federal payments through the ACH are contained in 31 CFR part 210.

(d) Suspension of payment. If the Contractor's EFT information in the CCR database is incorrect, then the Government need not make payment to the Contractor under this contract until correct EFT information is entered into the CCR database; and any invoice or contract financing request shall be deemed not to be a proper invoice for the purpose of prompt payment under this contract. The prompt payment terms of the contract regarding notice of an improper invoice and delays in accrual of interest penalties apply.

(e) Contractor EFT arrangements. If the Contractor has identified multiple payment receiving points (i.e., more than one remittance address and/or EFT information set) in the CCR database, and the Contractor has not notified the Government of the payment receiving point applicable to this contract, the Government shall make payment to the first payment receiving point (EFT information set or remittance address as applicable) listed in the CCR database.

(f) Liability for uncompleted or erroneous transfers. (1) If an uncompleted or erroneous transfer occurs because the Government used the Contractor's EFT information incorrectly, the Government remains responsible for--

(i) Making a correct payment;

(ii) Paying any prompt payment penalty due; and

(iii) Recovering any erroneously directed funds.

(2) If an uncompleted or erroneous transfer occurs because the Contractor's EFT information was incorrect, or was revised within 30 days of Government release of the EFT payment transaction instruction to the Federal Reserve System, and--

(i) If the funds are no longer under the control of the payment office, the Government is deemed to have made payment and the Contractor is responsible for recovery of any erroneously directed funds; or

(ii) If the funds remain under the control of the payment office, the Government shall not make payment, and the provisions of paragraph (d) of this clause shall apply.

(g) EFT and prompt payment. A payment shall be deemed to have been made in a timely manner in accordance with the prompt payment terms of this contract if, in the EFT payment transaction instruction released to the Federal Reserve System, the date specified for settlement of the payment is on or before the prompt payment due date, provided the specified payment date is a valid date under the rules of the Federal Reserve System.

(h) EFT and assignment of claims. If the Contractor assigns the proceeds of this contract as provided for in the assignment of claims terms of this contract, the Contractor shall require as a condition of any such assignment, that the assignee shall register in the CCR database and shall be paid by EFT in accordance with the terms of this clause. In all respects, the requirements of this clause shall apply to the assignee as if it were the Contractor. EFT information that shows the ultimate recipient of the transfer to be other than the Contractor, in the absence of a proper assignment of claims acceptable to the Government, is incorrect EFT information within the meaning of paragraph (d) of this clause.



(i) Liability for change of EFT information by financial agent. The Government is not liable for errors resulting from changes to EFT information made by the Contractor's financial agent.

(j) Payment information. The payment or disbursing office shall forward to the Contractor available payment information that is suitable for transmission as of the date of release of the EFT instruction to the Federal Reserve System. The Government may request the Contractor to designate a desired format and method(s) for delivery of payment information from a list of formats and methods the payment office is capable of executing. However, the Government does not guarantee that any particular format or method of delivery is available at any particular payment office and retains the latitude to use the format and delivery method most convenient to the Government. If the Government makes payment by check in accordance with paragraph (a) of this clause, the Government shall mail the payment information to the remittance address contained in the CCR database.

(End of Clause)

#### 52.233-1 DISPUTES. (DEC 1998)

(a) This contract is subject to the Contract Disputes Act of 1978, as amended (41 U.S.C. 601-613).

(b) Except as provided in the Act, all disputes arising under or relating to this contract shall be resolved under this clause.

(c) "Claim," as used in this clause, means a written demand or written assertion by one of the contracting parties seeking, as a matter of right, the payment of money in a sum certain, the adjustment or interpretation of contract terms, or other relief arising under or relating to this contract. A claim arising under a contract, unlike a claim relating to that contract, is a claim that can be resolved under a contract clause that provides for the relief sought by the claimant. However, a written demand or written assertion by the Contractor seeking the payment of money exceeding \$100,000 is not a claim under the Act until certified as required by subparagraph (d)(2) of this clause. A voucher, invoice, or other routine request for payment that is not in dispute when submitted is not a claim under the Act. The submission may be converted to a claim under the Act, by complying with the submission and certification requirements of this clause, if it is disputed either as to liability or amount or is not acted upon in a reasonable time.

(d)(1) A claim by the Contractor shall be made in writing and, unless otherwise stated in this contract, submitted within 6 years after accrual of the claim to the Contracting Officer for a written decision. A claim by the Government against the Contractor shall be subject to a written decision by the Contracting Officer.

(2)(i) The contractors shall provide the certification specified in subparagraph (d)(2)(iii) of this clause when submitting any claim -

(A) Exceeding \$100,000; or

(B) Regardless of the amount claimed, when using -

(1) Arbitration conducted pursuant to 5 U.S.C. 575-580; or

(2) Any other alternative means of dispute resolution (ADR) technique that the agency elects to handle in accordance with the Administrative Dispute Resolution Act (ADRA).

(ii) The certification requirement does not apply to issues in controversy that have not been submitted as all or part of a claim.

(iii) The certification shall state as follows: "I certify that the claim is made in good faith; that the supporting data are accurate and complete to the best of my knowledge and belief; that the amount requested accurately reflects the contract adjustment for which the Contractor believes the Government is liable; and that I am duly authorized to certify the claim on behalf of the Contractor."

(3) The certification may be executed by any person duly authorized to bind the Contractor with respect to the claim.

(e) For Contractor claims of \$100,000 or less, the Contracting Officer must, if requested in writing by the Contractor, render a decision within 60 days of the request. For Contractor-certified claims over \$100,000, the Contracting Officer must, within 60 days, decide the claim or notify the Contractor of the date by which the decision will be made.

(f) The Contracting Officer's decision shall be final unless the Contractor appeals or files a suit as provided in the Act.

(g) If the claim by the Contractor is submitted to the Contracting Officer or a claim by the Government is presented to the Contractor, the parties, by mutual consent, may agree to use alternative dispute resolution (ADR). If the Contractor refuses an offer for ADR, the Contractor shall inform the Contracting Officer, in writing, of the Contractor's specific reasons for rejecting the request.

(h) The Government shall pay interest on the amount found due and unpaid from (1) the date the Contracting Officer receives the claim (certified, if required); or (2) the date that payment otherwise would be due, if that date is later, until the date of payment. With regard to claims having defective certifications, as defined in (FAR) 48 CFR 33.201, interest shall be paid from the date that the Contracting Officer initially receives the claim. Simple interest on claims shall be paid at the rate, fixed by the Secretary of the Treasury as provided in the Act, which is applicable to the period during which the Contracting Officer receives the claim and then at the rate applicable for each 6-month period as fixed by the Treasury Secretary during the pendency of the claim.

(i) The Contractor shall proceed diligently with performance of this contract, pending final resolution of any request for relief, claim, appeal, or action arising under the contract, and comply with any decision of the Contracting Officer.

(End of clause)

#### 52.233-3 PROTEST AFTER AWARD (AUG. 1996)

(a) Upon receipt of a notice of protest (as defined in FAR 33.101) or a determination that a protest is likely (see FAR 33.102(d)), the Contracting Officer may, by written order to the Contractor, direct the Contractor to stop performance of the work called for by this contract. The order shall be specifically identified as a stop-work order issued under this clause. Upon receipt of the order, the Contractor shall immediately comply with its terms and take all reasonable steps to minimize the incurrence of costs allocable to the work covered by the order during the period of work stoppage. Upon receipt of the final decision in the protest, the Contracting Officer shall either--

(1) Cancel the stop-work order; or

(2) Terminate the work covered by the order as provided in the Default, or the Termination for Convenience of the Government, clause of this contract.

(b) If a stop-work order issued under this clause is canceled either before or after a final decision in the protest, the Contractor shall resume work. The Contracting Officer shall make an equitable adjustment in the delivery schedule or contract price, or both, and the contract shall be modified, in writing, accordingly, if--

(1) The stop-work order results in an increase in the time required for, or in the Contractor's cost properly allocable to, the performance of any part of this contract; and

(2) The Contractor asserts its right to an adjustment within 30 days after the end of the period of work stoppage; provided, that if the Contracting Officer decides the facts justify the action, the Contracting Officer may receive and act upon a proposal at any time before final payment under this contract.

(c) If a stop-work order is not canceled and the work covered by the order is terminated for the convenience of the

Government, the Contracting Officer shall allow reasonable costs resulting from the stop-work order in arriving at the termination settlement.

(d) If a stop-work order is not canceled and the work covered by the order is terminated for default, the Contracting Officer shall allow, by equitable adjustment or otherwise, reasonable costs resulting from the stop-work order.

(e) The Government's rights to terminate this contract at any time are not affected by action taken under this clause.

(f) If, as the result of the Contractor's intentional or negligent misstatement, misrepresentation, or miscertification, a protest related to this contract is sustained, and the Government pays costs, as provided in FAR 33.102(b)(2) or 33.104(h)(1), the Government may require the Contractor to reimburse the Government the amount of such costs. In addition to any other remedy available, and pursuant to the requirements of Subpart 32.6, the Government may collect this debt by offsetting the amount against any payment due the Contractor under any contract between the Contractor and the Government.

#### 52.236-2 DIFFERING SITE CONDITIONS (APR 1984)

As prescribed in 36.502, insert the following clause in solicitations and contracts when a fixed-price construction contract or a fixed-price dismantling, demolition, or removal of improvements contract is contemplated and the contract amount is expected to exceed the small purchase limitation. The Contracting Officer may insert the clause in solicitations and contracts when a fixed-price construction or a fixed-price contract for dismantling, demolition, or removal of improvements is contemplated and the contract amount is expected to be within the small purchase limitation.

(a) The Contractor shall promptly, and before the conditions are disturbed, give a written notice to the Contracting Officer of

(1) subsurface or latent physical conditions at the site which differ materially from those indicated in this contract, or

(2) unknown physical conditions at the site, of an unusual nature, which differ materially from those ordinarily encountered and generally recognized as inhering in work of the character provided for in the contract.

(b) The Contracting Officer shall investigate the site conditions promptly after receiving the notice. If the conditions do materially so differ and cause an increase or decrease in the Contractor's cost of, or the time required for, performing any part of the work under this contract, whether or not changed as a result of the conditions, an equitable adjustment shall be made under this clause and the contract modified in writing accordingly.

(c) No request by the Contractor for an equitable adjustment to the contract under this clause shall be allowed, unless the Contractor has given the written notice required; provided, that the time prescribed in (a) above for giving written notice may be extended by the Contracting Officer.

(d) No request by the Contractor for an equitable adjustment to the contract for differing site conditions shall be allowed if made after final payment under this contract.

#### 52.236-3 SITE INVESTIGATION AND CONDITIONS AFFECTING THE WORK (APR 1984)

(a) The Contractor acknowledges that it has taken steps reasonably necessary to ascertain the nature and location of the work, and that it has investigated and satisfied itself as to the general and local conditions which can affect the work or its cost, including but not limited to

(1) conditions bearing upon transportation, disposal, handling, and storage of materials;

(2) the availability of labor, water, electric power, and roads;

(3) uncertainties of weather, river stages, tides, or similar physical conditions at the site;

(4) the conformation and conditions of the ground; and (5) the character of equipment and facilities needed preliminary to and during work performance. The Contractor also acknowledges that it has satisfied itself as to the character, quality, and quantity of surface and subsurface materials or obstacles to be encountered insofar as this information is reasonably ascertainable from an inspection of the site, including all exploratory work done by the Government, as well as from the drawings and specifications made a part of this contract. Any failure of the Contractor to take the actions described and acknowledged in this paragraph will not relieve the Contractor from responsibility for estimating properly the difficulty and cost of successfully performing the work, or for proceeding to successfully perform the work without additional expense to the Government.

(b) The Government assumes no responsibility for any conclusions or interpretations made by the Contractor based on the information made available by the Government. Nor does the Government assume responsibility for any understanding reached or representation made concerning conditions which can affect the work by any of its officers or agents before the execution of this contract, unless that understanding or representation is expressly stated in this contract.

#### 52.236-5 MATERIAL AND WORKMANSHIP (APR 1984)

(a) All equipment, material, and articles incorporated into the work covered by this contract shall be new and of the most suitable grade for the purpose intended, unless otherwise specifically provided in this contract. References in the specifications to equipment, material, articles, or patented processes by trade name, make, or catalog number, shall be regarded as establishing a standard of quality and shall not be construed as limiting competition. The Contractor may, at its option, use any equipment, material, article, or process that, in the judgment of the Contracting Officer, is equal to that named in the specifications, unless otherwise specifically provided in this contract.

(b) The Contractor shall obtain the Contracting Officer's approval of the machinery and mechanical and other equipment to be incorporated into the work. When requesting approval, the Contractor shall furnish to the Contracting Officer the name of the manufacturer, the model number, and other information concerning the performance, capacity, nature, and rating of the machinery and mechanical and other equipment. When required by this contract or by the Contracting Officer, the Contractor shall also obtain the Contracting Officer's approval of the material or articles which the Contractor contemplates incorporating into the work. When requesting approval, the Contractor shall provide full information concerning the material or articles. When directed to do so, the Contractor shall submit samples for approval at the Contractor's expense, with all shipping charges prepaid. Machinery, equipment, material, and articles that do not have the required approval shall be installed or used at the risk of subsequent rejection.

(c) All work under this contract shall be performed in a skillful and workmanlike manner. The Contracting Officer may require, in writing, that the Contractor remove from the work any employee the Contracting Officer deems incompetent, careless, or otherwise objectionable.

#### 52.236-6 SUPERINTENDENCE BY THE CONTRACTOR (APR 1984)

At all times during performance of this contract and until the work is completed and accepted, the Contractor shall directly superintend the work or assign and have on the worksite a competent superintendent who is satisfactory to the Contracting Officer and has authority to act for the Contractor.

#### 52.236-7 PERMITS AND RESPONSIBILITIES (NOV 1991)

The Contractor shall, without additional expense to the Government, be responsible for obtaining any necessary licenses and permits, and for complying with any Federal, State, and municipal laws, codes, and regulations applicable to the performance of the work. The Contractor shall also be responsible for all damages to persons or property that occur as a result of the Contractor's fault or negligence. The Contractor shall also be responsible for all materials delivered and work performed until completion and acceptance of the entire work, except for any completed unit of work which may have been accepted under the contract.

#### 52.236-8 OTHER CONTRACTS (APR 1984)

The Government may undertake or award other contracts for additional work at or near the site of the work under this contract. The Contractor shall fully cooperate with the other contractors and with Government employees and shall carefully adapt scheduling and performing the work under this contract to accommodate the additional work, heeding any direction that may be provided by the Contracting Officer. The Contractor shall not commit or permit any act that will interfere with the performance of work by any other contractor or by Government employees.

#### 52.236-9 PROTECTION OF EXISTING VEGETATION, STRUCTURES, EQUIPMENT, UTILITIES, AND IMPROVEMENTS (APR 1984)

(a) The Contractor shall preserve and protect all structures, equipment, and vegetation (such as trees, shrubs, and grass) on or adjacent to the work site, which are not to be removed and which do not unreasonably interfere with the work required under this contract. The Contractor shall only remove trees when specifically authorized to do so, and shall avoid damaging vegetation that will remain in place. If any limbs or branches of trees are broken during contract performance, or by the careless operation of equipment, or by workmen, the Contractor shall trim those limbs or branches with a clean cut and paint the cut with a tree-pruning compound as directed by the Contracting Officer.

(b) The Contractor shall protect from damage all existing improvements and utilities

(1) at or near the work site, and

(2) on adjacent property of a third party, the locations of which are made known to or should be known by the Contractor. The Contractor shall repair any damage to those facilities, including those that are the property of a third party, resulting from failure to comply with the requirements of this contract or failure to exercise reasonable care in performing the work. If the Contractor fails or refuses to repair the damage promptly, the Contracting Officer may have the necessary work performed and charge the cost to the Contractor.

#### 52.236-10 OPERATIONS AND STORAGE AREAS (APR 1984)

(a) The Contractor shall confine all operations (including storage of materials) on Government premises to areas authorized or approved by the Contracting Officer. The Contractor shall hold and save the Government, its officers and agents, free and harmless from liability of any nature occasioned by the Contractor's performance.

(b) Temporary buildings (e.g., storage sheds, shops, offices) and utilities may be erected by the Contractor only with the approval of the Contracting Officer and shall be built with labor and materials furnished by the Contractor without expense to the Government. The temporary buildings and utilities shall remain the property of the Contractor and shall be removed by the Contractor at its expense upon completion of the work. With the written consent of the Contracting Officer, the buildings and utilities may be abandoned and need not be removed.

(c) The Contractor shall, under regulations prescribed by the Contracting Officer, use only established roadways, or use temporary roadways constructed by the Contractor when and as authorized by the Contracting Officer. When materials are transported in prosecuting the work, vehicles shall not be loaded beyond the loading capacity recommended by the manufacturer of the vehicle or prescribed by any Federal, State, or local law or regulation.

When it is necessary to cross curbs or sidewalks, the Contractor shall protect them from damage. The Contractor shall repair or pay for the repair of any damaged curbs, sidewalks, or roads.

#### 52.236-11 USE AND POSSESSION PRIOR TO COMPLETION (APR 1984)

(a) The Government shall have the right to take possession of or use any completed or partially completed part of the work. Before taking possession of or using any work, the Contracting Officer shall furnish the Contractor a list of items of work remaining to be performed or corrected on those portions of the work that the Government intends to take possession of or use. However, failure of the Contracting Officer to list any item of work shall not relieve the Contractor of responsibility for complying with the terms of the contract. The Government's possession or use shall not be deemed an acceptance of any work under the contract.

(b) While the Government has such possession or use, the Contractor shall be relieved of the responsibility for the loss of or damage to the work resulting from the Government's possession or use, notwithstanding the terms of the clause in this contract entitled "Permits and Responsibilities." If prior possession or use by the Government delays the progress of the work or causes additional expense to the Contractor, an equitable adjustment shall be made in the contract price or the time of completion, and the contract shall be modified in writing accordingly.

#### 52.236-12 CLEANING UP (APR 1984)

The Contractor shall at all times keep the work area, including storage areas, free from accumulations of waste materials. Before completing the work, the Contractor shall remove from the work and premises any rubbish, tools, scaffolding, equipment, and materials that are not the property of the Government. Upon completing the work, the Contractor shall leave the work area in a clean, neat, and orderly condition satisfactory to the Contracting Officer.

#### 52.236-13 ACCIDENT PREVENTION (NOV 1991)

(a) The Contractor shall provide and maintain work environments and procedures which will

(1) safeguard the public and Government personnel, property, materials, supplies, and equipment exposed to Contractor operations and activities;

(2) avoid interruptions of Government operations and delays in project completion dates; and

(3) control costs in the performance of this contract.

(b) For these purposes on contracts for construction or dismantling, demolition, or removal of improvements, the Contractor shall-

(1) Provide appropriate safety barricades, signs, and signal lights;

(2) Comply with the standards issued by the Secretary of Labor at 29 CFR Part 1926 and 29 CFR Part 1910; and

(3) Ensure that any additional measures the Contracting Officer determines to be reasonably necessary for the purposes are taken.

(c) If this contract is for construction or dismantling, demolition or removal of improvements with any Department of Defense agency or component, the Contractor shall comply with all pertinent provisions of the latest version of U.S. Army Corps of Engineers Safety and Health Requirements Manual, EM 385-1-1, in effect on the date of the solicitation.

(d) Whenever the Contracting Officer becomes aware of any noncompliance with these requirements or any

condition which poses a serious or imminent danger to the health or safety of the public or Government personnel, the Contracting Officer shall notify the Contractor orally, with written confirmation, and request immediate initiation of corrective action. This notice, when delivered to the Contractor or the Contractor's representative at the work site, shall be deemed sufficient notice of the noncompliance and that corrective action is required. After receiving the notice, the Contractor shall immediately take corrective action. If the Contractor fails or refuses to promptly take corrective action, the Contracting Officer may issue an order stopping all or part of the work until satisfactory corrective action has been taken. The Contractor shall not be entitled to any equitable adjustment of the contract price or extension of the performance schedule on any stop work order issued under this clause.

(e) The Contractor shall insert this clause, including this paragraph (e), with appropriate changes in the designation of the parties, in subcontracts.

#### 52.236-14 AVAILABILITY AND USE OF UTILITY SERVICES (APR 1984)

(a) The Government shall make all reasonably required amounts of utilities available to the Contractor from existing outlets and supplies, as specified in the contract. Unless otherwise provided in the contract, the amount of each utility service consumed shall be charged to or paid for by the Contractor at prevailing rates charged to the Government or, where the utility is produced by the Government, at reasonable rates determined by the Contracting Officer. The Contractor shall carefully conserve any utilities furnished without charge.

(b) The Contractor, at its expense and in a workmanlike manner satisfactory to the Contracting Officer, shall install and maintain all necessary temporary connections and distribution lines, and all meters required to measure the amount of each utility used for the purpose of determining charges. Before final acceptance of the work by the Government, the Contractor shall remove all the temporary connections, distribution lines, meters, and associated paraphernalia.

#### 52.236-15 SCHEDULES FOR CONSTRUCTION CONTRACTS (APR 1984)

(a) The Contractor shall, within five days after the work commences on the contract or another period of time determined by the Contracting Officer, prepare and submit to the Contracting Officer for approval three copies of a practicable schedule showing the order in which the Contractor proposes to perform the work, and the dates on which the Contractor contemplates starting and completing the several salient features of the work (including acquiring materials, plant, and equipment). The schedule shall be in the form of a progress chart of suitable scale to indicate appropriately the percentage of work scheduled for completion by any given date during the period. If the Contractor fails to submit a schedule within the time prescribed, the Contracting Officer may withhold approval of progress payments until the Contractor submits the required schedule.

(b) The Contractor shall enter the actual progress on the chart as directed by the Contracting Officer, and upon doing so shall immediately deliver three copies of the annotated schedule to the Contracting Officer. If, in the opinion of the Contracting Officer, the Contractor falls behind the approved schedule, the Contractor shall take steps necessary to improve its progress, including those that may be required by the Contracting Officer, without additional cost to the Government. In this circumstance, the Contracting Officer may require the Contractor to increase the number of shifts, overtime operations, days of work, and/or the amount of construction plant, and to submit for approval any supplementary schedule or schedules in chart form as the Contracting Officer deems necessary to demonstrate how the approved rate of progress will be regained.

(c) Failure of the Contractor to comply with the requirements of the Contracting Officer under this clause shall be grounds for a determination by the Contracting Officer that the Contractor is not prosecuting the work with sufficient diligence to ensure completion within the time specified in the contract. Upon making this determination, the Contracting Officer may terminate the Contractor's right to proceed with the work, or any separable part of it, in accordance with the default terms of this contract.

## 52.236-21 SPECIFICATIONS AND DRAWINGS FOR CONSTRUCTION (FEB 1997)

(a) The Contractor shall keep on the work site a copy of the drawings and specifications and shall at all times give the Contracting Officer access thereto. Anything mentioned in the specifications and not shown on the drawings, or shown on the drawings and not mentioned in the specifications, shall be of like effect as if shown or mentioned in both. In case of difference between drawings and specifications, the specifications shall govern. In case of discrepancy in the figures, in the drawings, or in the specifications, the matter shall be promptly submitted to the Contracting Officer, who shall promptly make a determination in writing. Any adjustment by the Contractor without such a determination shall be at its own risk and expense. The Contracting Officer shall furnish from time to time such detailed drawings and other information as considered necessary, unless otherwise provided.

(b) Wherever in the specifications or upon the drawings the words "directed", "required", "ordered", "designated", "prescribed", or words of like import are used, it shall be understood that the "direction", "requirement", "order", "designation", or "prescription", of the Contracting Officer is intended and similarly the words "approved", "acceptable", "satisfactory", or words of like import shall mean "approved by," or "acceptable to", or "satisfactory to" the Contracting Officer, unless otherwise expressly stated.

(c) Where "as shown," "as indicated", "as detailed", or words of similar import are used, it shall be understood that the reference is made to the drawings accompanying this contract unless stated otherwise. The word "provided" as used herein shall be understood to mean "provide complete in place," that is "furnished and installed".

(d) Shop drawings means drawings, submitted to the Government by the Contractor, subcontractor, or any lower tier subcontractor pursuant to a construction contract, showing in detail (1) the proposed fabrication and assembly of structural elements, and (2) the installation (i.e., fit, and attachment details) of materials or equipment. It includes drawings, diagrams, layouts, schematics, descriptive literature, illustrations, schedules, performance and test data, and similar materials furnished by the contractor to explain in detail specific portions of the work required by the contract. The Government may duplicate, use, and disclose in any manner and for any purpose shop drawings delivered under this contract.

(e) If this contract requires shop drawings, the Contractor shall coordinate all such drawings, and review them for accuracy, completeness, and compliance with contract requirements and shall indicate its approval thereon as evidence of such coordination and review. Shop drawings submitted to the Contracting Officer without evidence of the Contractor's approval may be returned for resubmission. The Contracting Officer will indicate an approval or disapproval of the shop drawings and if not approved as submitted shall indicate the Government's reasons therefor. Any work done before such approval shall be at the Contractor's risk. Approval by the Contracting Officer shall not relieve the Contractor from responsibility for any errors or omissions in such drawings, nor from responsibility for complying with the requirements of this contract, except with respect to variations described and approved in accordance with (f) below.

(f) If shop drawings show variations from the contract requirements, the Contractor shall describe such variations in writing, separate from the drawings, at the time of submission. If the Contracting Officer approves any such variation, the Contracting Officer shall issue an appropriate contract modification, except that, if the variation is minor or does not involve a change in price or in time of performance, a modification need not be issued.

(g) The Contractor shall submit to the Contracting Officer for approval four copies (unless otherwise indicated) of all shop drawings as called for under the various headings of these specifications. Three sets (unless otherwise indicated) of all shop drawings, will be retained by the Contracting Officer and one set will be returned to the Contractor.

## 52.236-26 PRECONSTRUCTION CONFERENCE (FEB 1995)

If the Contracting Officer decides to conduct a preconstruction conference, the successful offeror will be notified and will be required to attend. The Contracting Officer's notification will include specific details regarding the date,



time, and location of the conference, any need for attendance by subcontractors, and information regarding the items to be discussed.

#### 252.236-7000 MODIFICATION PROPOSALS - PRICE BREAKDOWN. (DEC 1991)

(a) The Contractor shall furnish a price breakdown, itemized as required and within the time specified by the Contracting Officer, with any proposal for a contract modification.

(b) The price breakdown --

(1) Must include sufficient detail to permit an analysis of profit, and of all costs for --

(i) Material;

(ii) Labor;

(iii) Equipment;

(iv) Subcontracts; and

(v) Overhead; and

(2) Must cover all work involved in the modification, whether the work was deleted, added, or changed.

(c) The Contractor shall provide similar price breakdowns to support any amounts claimed for subcontracts.

(d) The Contractor's proposal shall include a justification for any time extension proposed.

#### 52.242-13 BANKRUPTCY (JUL 1995)

In the event the Contractor enters into proceedings relating to bankruptcy, whether voluntary or involuntary, the Contractor agrees to furnish, by certified mail or electronic commerce method authorized by the contract, written notification of the bankruptcy to the Contracting Officer responsible for administering the contract. This notification shall be furnished within five days of the initiation of the proceedings relating to bankruptcy filing. This notification shall include the date on which the bankruptcy petition was filed, the identity of the court in which the bankruptcy petition was filed, and a listing of Government contract numbers and contracting offices for all Government contracts against which final payment has not been made. This obligation remains in effect until final payment under this contract.

(End of clause)

#### 52.242-14 SUSPENSION OF WORK (APR 1984)

(a) The Contracting Officer may order the Contractor, in writing, to suspend, delay, or interrupt all or any part of the work of this contract for the period of time that the Contracting Officer determines appropriate for the convenience of the Government.

(b) If the performance of all or any part of the work is, for an unreasonable period of time, suspended, delayed, or interrupted (1) by an act of the Contracting Officer in the administration of this contract, or (2) by the Contracting Officer's failure to act within the time specified in this contract (or within a reasonable time if not specified), an adjustment shall be made for any increase in the cost of performance of this contract (excluding profit) necessarily caused by the unreasonable suspension, delay, or interruption, and the contract modified in writing accordingly.

However, no adjustment shall be made under this clause for any suspension, delay, or interruption to the extent that performance would have been so suspended, delayed, or interrupted by any other cause, including the fault or negligence of the Contractor, or for which an equitable adjustment is provided for or excluded under any other term or condition of this contract. (c) A claim under this clause shall not be allowed (1) for any costs incurred more than 20 days before the Contractor shall have notified the Contracting Officer in writing of the act or failure to act involved (but this requirement shall not apply as to a claim resulting from a suspension order), and (2) unless the claim, in an amount stated, is asserted in writing as soon as practicable after the termination of the suspension, delay, or interruption, but not later than the date of final payment under the contract.

#### 52.243-4 CHANGES (AUG 1987)

(a) The Contracting Officer may, at any time, without notice to the sureties, if any, by written order designated or indicated to be a change order, make changes in the work within the general scope of the contract, including changes--

- (1) In the specifications (including drawings and designs);
- (2) In the method or manner of performance of the work;
- (3) In the Government-furnished facilities, equipment, materials, services, or site; or
- (4) Directing acceleration in the performance of the work.

(b) Any other written or oral order (which, as used in this paragraph (b), includes direction, instruction, interpretation, or determination) from the Contracting Officer that causes a change shall be treated as a change order under this clause; provided, that the Contractor gives the Contracting Officer written notice stating

- (1) the date, circumstances, and source of the order and
- (2) that the Contractor regards the order as a change order.

(c) Except as provided in this clause, no order, statement, or conduct of the Contracting Officer shall be treated as a change under this clause or entitle the Contractor to an equitable adjustment.

(d) If any change under this clause causes an increase or decrease in the Contractor's cost of, or the time required for, the performance of any part of the work under this contract, whether or not changed by any such order, the Contracting Officer shall make an equitable adjustment and modify the contract in writing. However, except for an adjustment based on defective specifications, no adjustment for any change under paragraph (b) of this clause shall be made for any costs incurred more than 20 days before the Contractor gives written notice as required. In the case of defective specifications for which the Government is responsible, the equitable adjustment shall include any increased cost reasonably incurred by the Contractor in attempting to comply with the defective specifications.

(e) The Contractor must assert its right to an adjustment under this clause within 30 days after

(1) receipt of a written change order under paragraph (a) of this clause or (2) the furnishing of a written notice under paragraph (b) of this clause, by submitting to the Contracting Officer a written statement describing the general nature and amount of the proposal, unless this period is extended by the Government. The statement of proposal for adjustment may be included in the notice under paragraph (b) above.

(f) No proposal by the Contractor for an equitable adjustment shall be allowed if asserted after final payment under this contract.

#### 252.243-7000 ENGINEERING CHANGE PROPOSALS (SEP 1999)

(a) The Contracting Officer may ask the Contractor to prepare engineering change proposals for engineering changes within the scope of this contract. Upon receipt of a written request from the Contracting Officer, the Contractor shall prepare and submit an engineering change proposal in accordance with the instructions of MIL-STD-973, in effect on the date of contract award.

(b) The Contractor may initiate engineering change proposals. Contractor initiated engineering change proposals shall include a "not to exceed" price\* or a "not less than" price\* and delivery adjustment. If the Contracting Officer orders the engineering change, the increase shall not exceed nor the decrease be less than the "not to exceed" or "not less than" amounts\*\*.

When the price\* of the engineering change is \$500,000 or more, the Contractor shall submit--

(1) A completed SF 1411, Contract Pricing Proposal Cover Sheet (Cost or Pricing Data Required); and

(2) At the time of agreement on price\*, or on another date agreed upon between the parties, a signed Certificate of Current Cost or Pricing Data.

(c) When the price\* of the engineering change is \$500,000 or more, the Contractor shall submit--

(1) A contract pricing proposal using the format in Table 15-2, Section 15.408, of the Federal Acquisition Regulation and

(2) At the time of agreement on price\*, or on another date agreed upon between the parties, a signed Certificate of Current Cost or Pricing Data.

(End of clause)

#### 52.243-7001 PRICING OF CONTRACT MODIFICATIONS (DEC 1991)

When costs are a factor in any price adjustment under this contract, the contract cost principles and procedures in FAR part 31 and DFARS part 231, in effect on the date of this contract, apply.

#### 52.244-6 SUBCONTRACTS FOR COMMERCIAL ITEMS AND COMMERCIAL COMPONENTS (OCT 1998)

(a) Definitions.

"Commercial item", as used in this clause, has the meaning contained in the clause at 52.202-1, Definitions.

"Subcontract", as used in this clause, includes a transfer of commercial items between divisions, subsidiaries, or affiliates of the Contractor or subcontractor at any tier.

(b) To the maximum extent practicable, the Contractor shall incorporate, and require its subcontractors at all tiers to incorporate, commercial items or nondevelopmental items as components of items to be supplied under this contract.

(c) Notwithstanding any other clause of this contract, the Contractor is not required to include any FAR provision or clause, other than those listed below to the extent they are applicable and as may be required to establish the reasonableness of prices under Part 15, in a subcontract at any tier for commercial items or commercial components:

(1) 52.222-26, Equal Opportunity (E.O. 11246);

(2) 52.222-35, Affirmative Action for Disabled Veterans and Veterans of the Vietnam Era (38 U.S.C. 4212(a));

(3) 52.222-36, Affirmative Action for Workers with Disabilities (29 U.S.C. 793); and

(4) 52.247-64, Preference for Privately-Owned U.S.-Flagged Commercial Vessels (46 U.S.C. 1241)(flow down not required for subcontracts awarded beginning May 1, 1996).

(d) The Contractor shall include the terms of this clause, including this paragraph (d), in subcontracts awarded under this contract.

52.222-26 EQUAL OPPORTUNITY (FEB 1999)

(a) If, during any 12-month period (including the 12 months preceding the award of this contract), the Contractor has been or is awarded nonexempt Federal contracts and/or subcontracts that have an aggregate value in excess of \$10,000, the Contractor shall comply with subparagraphs (b)(1) through (11) of this clause. Upon request, the Contractor shall provide information necessary to determine the applicability of this clause.

(b) During performing this contract, the Contractor agrees as follows:

(1) The Contractor shall not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. However, it shall not be a violation of this clause for the Contractor to extend a publicly announced preference in employment to Indians living on or near an Indian reservation, in connection with employment opportunities on or near an Indian reservation, as permitted by 41 CFR 60-1.5.

(2) The Contractor shall take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, religion, sex, or national origin. This shall include, but not be limited to, (i) employment, (ii) upgrading, (iii) demotion, (iv) transfer, (v) recruitment or recruitment advertising, (vi) layoff or termination, (vii) rates of pay or other forms of compensation, and (viii) selection for training, including apprenticeship.

(3) The Contractor shall post in conspicuous places available to employees and applicants for employment the notices to be provided by the Contracting Officer that explain this clause.

(4) The Contractor shall, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, or national origin.

(5) The Contractor shall send, to each labor union or representative of workers with which it has a collective bargaining agreement or other contract or understanding, the notice to be provided by the Contracting Officer advising the labor union or workers' representative of the Contractor's commitments under this clause, and post copies of the notice in conspicuous places available to employees and applicants for employment.

(6) The Contractor shall comply with Executive Order 11246, as amended, and the rules, regulations, and orders of the Secretary of Labor.

(7) The Contractor shall furnish to the contracting agency all information required by Executive Order 11246, as amended, and by the rules, regulations, and orders of the Secretary of Labor. The Contractor shall also file Standard Form 100 (EEO-1), or any successor form, as prescribed in 41 CFR part 60-1. Unless the Contractor has filed within the 12 months preceding the date of contract award, the Contractor shall, within 30 days after contract award, apply to either the regional Office of Federal Contract Compliance Programs (OFCCP) or the local office of the Equal Employment Opportunity Commission for the necessary forms.

(8) The Contractor shall permit access to its premises, during normal business hours, by the contracting agency or the OFCCP for the purpose of conducting on-site compliance evaluations and complaint investigations. The Contractor shall permit the Government to inspect and copy any books, accounts, records (including computerized records), and other material that may be relevant to the matter under investigation and pertinent to compliance with Executive Order 11246, as amended, and rules and regulations that implement the Executive Order.

(9) If the OFCCP determines that the Contractor is not in compliance with this clause or any rule, regulation, or order of the Secretary of Labor, this contract may be canceled, terminated, or suspended in whole or in part and the Contractor may be declared ineligible for further Government contracts, under the procedures authorized in Executive Order 11246, as amended. In addition, sanctions may be imposed and remedies invoked against the Contractor as provided in Executive Order 11246, as amended; in the rules, regulations, and orders of the Secretary of Labor; or as otherwise provided by law.

(10) The Contractor shall include the terms and conditions of subparagraphs (b)(1) through (11) of this clause in every subcontract or purchase order that is not exempted by the rules, regulations, or orders of the Secretary of Labor issued under Executive Order 11246, as amended, so that these terms and conditions will be binding upon each subcontractor or vendor.

(11) The Contractor shall take such action with respect to any subcontract or purchase order as the contracting officer may direct as a means of enforcing these terms and conditions, including sanctions for noncompliance; provided, that if the Contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of any direction, the Contractor may request the United States to enter into the litigation to protect the interests of the United States.

(c) Notwithstanding any other clause in this contract, disputes relative to this clause will be governed by the procedures in 41 CFR 60-1.1.

#### 52.222-35 AFFIRMATIVE ACTION FOR DISABLED VETERANS AND VETERANS OF THE VIETNAM ERA (APR 1998)

(a) ) Definitions. As used in this clause--

All employment openings includes all positions except executive and top management, those positions that will be filled from within the contractor's organization, and positions lasting 3 days or less. This term includes full-time employment, temporary employment of more than 3 days' duration, and part-time employment.

Appropriate office of the State employment service system means the local office of the Federal-State national system of public employment offices with assigned responsibility to serve the area where the employment opening is to be filled, including the District of Columbia, Guam, the Commonwealth of Puerto Rico, and the Virgin Islands.

Positions that will be filled from within the Contractor's organization means employment openings for which no consideration will be given to persons outside the Contractor's organization (including any affiliates, subsidiaries, and parent companies) and includes any openings that the Contractor proposes to fill from regularly established "recall" lists. The exception does not apply to a particular opening once an employer decides to consider applicants outside of its organization.

Veteran of the Vietnam era means a person who--

(1) Served on active duty for a period of more than 180 days, any part of which occurred between August 5, 1964, and May 7, 1975, and was discharged or released therefrom with other than a dishonorable discharge; or

(2) Was discharged or released from active duty for a service-connected disability if any part of such active duty was performed between August 5, 1964, and May 7, 1975.

(b) General. (1) Regarding any position for which the employee or applicant for employment is qualified, the Contractor shall not discriminate against the individual because the individual is a disabled veteran or a veteran of the Vietnam era. The Contractor agrees to take affirmative action to employ, advance in employment, and otherwise treat qualified disabled veterans and veterans of the Vietnam era without discrimination based upon their disability or veterans' status in all employment practices such as--

- (i) Employment;
- (ii) Upgrading;
- (iii) Demotion or transfer;
- (iv) Recruitment;
- (v) Advertising;
- (vi) Layoff or termination;
- (vii) Rates of pay or other forms of compensation; and
- (viii) Selection for training, including apprenticeship.

(2) The Contractor agrees to comply with the rules, regulations, and relevant orders of the Secretary of Labor (Secretary) issued under the Vietnam Era Veterans' Readjustment Assistance Act of 1972 (the Act), as amended.

(c) Listing openings. (1) The Contractor agrees to list all employment openings existing at contract award or occurring during contract performance, at an appropriate office of the State employment service system in the locality where the opening occurs. These openings include those occurring at any Contractor facility, including one not connected with performing this contract. An independent corporate affiliate is exempt from this requirement.

(2) State and local government agencies holding Federal contracts of \$10,000 or more shall also list all their employment openings with the appropriate office of the State employment service.

(3) The listing of employment openings with the State employment service system is required at least concurrently with using any other recruitment source or effort and involves the obligations of placing a bona fide job order, including accepting referrals of veterans and nonveterans. This listing does not require hiring any particular job applicant or hiring from any particular group of job applicants and is not intended to relieve the Contractor from any requirements of Executive orders or regulations concerning nondiscrimination in employment.

(4) Whenever the Contractor becomes contractually bound to the listing terms of this clause, it shall advise the State employment service system, in each State where it has establishments, of the name and location of each hiring location in the State. As long as the Contractor is contractually bound to these terms and has so advised the State system, it need not advise the State system of subsequent contracts. The Contractor may advise the State system when it is no longer bound by this contract clause.

(d) Applicability. This clause does not apply to the listing of employment openings that occur and are filled outside the 50 States, the District of Columbia, the Commonwealth of Puerto Rico, Guam, and the Virgin Islands.

(e) Postings. (1) The Contractor agrees to post employment notices stating (i) the Contractor's obligation under the law to take affirmative action to employ and advance in employment qualified disabled veterans and veterans of the Vietnam era, and (ii) the rights of applicants and employees.

(2) These notices shall be posted in conspicuous places that are available to employees and applicants for employment. They shall be in a form prescribed by the Deputy Assistant Secretary for Federal Contract Compliance Programs, Department of Labor (Deputy Assistant Secretary), and provided by or through the Contracting Officer.

(3) The Contractor shall notify each labor union or representative of workers with which it has a collective bargaining agreement or other contract understanding, that the Contractor is bound by the terms of the Act, and is committed to take affirmative action to employ, and advance in employment, qualified disabled veterans and veterans of the Vietnam Era.

(f) Noncompliance. If the Contractor does not comply with the requirements of this clause, appropriate actions may be taken under the rules, regulations, and relevant orders of the Secretary issued pursuant to the Act.

(g) Subcontracts. The Contractor shall include the terms of this clause in every subcontract or purchase order of \$10,000 or more unless exempted by rules, regulations, or orders of the Secretary. The Contractor shall act as specified by the Deputy Assistant Secretary to enforce the terms, including action for noncompliance.

(End of clause)

#### 52.222-36 AFFIRMATIVE ACTION FOR WORKERS WITH DISABILITIES (JUN 1998)

(a) General. (1) Regarding any position for which the employee or applicant for employment is qualified, the Contractor shall not discriminate against any employee or applicant because of physical or mental disability. The Contractor agrees to take affirmative action to employ, advance in employment, and otherwise treat qualified individuals with disabilities without discrimination based upon their physical or mental disability in all employment practices such as--

(i) Recruitment, advertising, and job application procedures;

(ii) Hiring, upgrading, promotion, award of tenure, demotion, transfer, layoff, termination, right of return from layoff, and rehiring;

(iii) Rates of pay or any other form of compensation and changes in compensation;

(iv) Job assignments, job classifications, organizational structures, position descriptions, lines of progression, and seniority lists;

(v) Leaves of absence, sick leave, or any other leave;

(vi) Fringe benefits available by virtue of employment, whether or not administered by the Contractor;

(vii) Selection and financial support for training, including apprenticeships, professional meetings, conferences, and other related activities, and selection for leaves of absence to pursue training;

(viii) Activities sponsored by the Contractor, including social or recreational programs; and

(ix) Any other term, condition, or privilege of employment.

(2) The Contractor agrees to comply with the rules, regulations, and relevant orders of the Secretary of Labor (Secretary) issued under the Rehabilitation Act of 1973 (29 U.S.C. 793) (the Act), as amended.

(b) Postings. (1) The Contractor agrees to post employment notices stating--

(i) The Contractor's obligation under the law to take affirmative action to employ and advance in employment qualified individuals with disabilities; and

(ii) The rights of applicants and employees.

(2) These notices shall be posted in conspicuous places that are available to employees and applicants for employment. The Contractor shall ensure that applicants and employees with disabilities are informed of the contents of the notice (e.g., the Contractor may have the notice read to a visually disabled individual, or may lower the posted notice so that it might be read by a person in a wheelchair). The notices shall be in a form prescribed by the Deputy Assistant Secretary for Federal Contract Compliance of the U.S. Department of Labor (Deputy Assistant Secretary) and shall be provided by or through the Contracting Officer.

(3) The Contractor shall notify each labor union or representative of workers with which it has a collective bargaining agreement or other contract understanding, that the Contractor is bound by the terms of Section 503 of the Act and is committed to take affirmative action to employ, and advance in employment, qualified individuals with physical or mental disabilities.

(c) Noncompliance. If the Contractor does not comply with the requirements of this clause, appropriate actions may be taken under the rules, regulations, and relevant orders of the Secretary issued pursuant to the Act.

(d) Subcontracts. The Contractor shall include the terms of this clause in every subcontract or purchase order in excess of \$10,000 unless exempted by rules, regulations, or orders of the Secretary. The Contractor shall act as specified by the Deputy Assistant Secretary to enforce the terms, including action for noncompliance.

(End of clause)

#### 52.247-64 PREFERENCE FOR PRIVATELY OWNED U.S. - FLAG COMMERCIAL VESSELS (JUN 2000)

(a) The Cargo Preference Act of 1954 (46 U.S.C. 1241(b)) requires that Federal departments and agencies shall transport in privately owned U.S.-flag commercial vessels at least 50 percent of the gross tonnage of equipment, materials, or commodities that may be transported in ocean vessels (computed separately for dry bulk carriers, dry cargo liners, and tankers). Such transportation shall be accomplished when any equipment, materials, or commodities, located within or outside the United States, that may be transported by ocean vessel are--

(1) Acquired for a U.S. Government agency account;

(2) Furnished to, or for the account of, any foreign nation without provision for reimbursement;

(3) Furnished for the account of a foreign nation in connection with which the United States advances funds or credits, or guarantees the convertibility of foreign currencies; or

(4) Acquired with advance of funds, loans, or guaranties made by or on behalf of the United States.

(b) The Contractor shall use privately owned U.S.-flag commercial vessels to ship at least 50 percent of the gross tonnage involved under this contract (computed separately for dry bulk carriers, dry cargo liners, and tankers) whenever shipping any equipment, materials, or commodities under the conditions set forth in paragraph (a) above, to the extent that such vessels are available at rates that are fair and reasonable for privately owned U.S.-flag commercial vessels.

(c)(1) The Contractor shall submit one legible copy of a rated on-board ocean bill of lading for each shipment to both (i) the Contracting Officer, and (ii) the Division of National Cargo, Office of Market Development, Maritime Administration, U.S. Department of Transportation, Washington, DC 20590. Subcontractor bills of lading shall be submitted through the Prime Contractor.

(2) The Contractor shall furnish these bill of lading copies (i) within 20 working days of the date of loading for shipments originating in the United States, or (ii) within 30 working days for shipments originating outside the United States. Each bill of lading copy shall contain the following information:

(A) Sponsoring U.S. Government agency.

(B) Name of vessel.

(C) Vessel flag of registry.

(D) Date of loading.



(E) Port of loading.

(F) Port of final discharge.

(G) Description of commodity.

(H) Gross weight in pounds and cubic feet if available.

(I) Total ocean freight revenue in U.S. dollars.

(d) The Contractor shall insert the substance of this clause, including this paragraph (d), in all subcontracts or purchase orders under this contract.

(e) The requirement in paragraph (a) does not apply to--

(1) Cargoes carried in vessels of the Panama Canal Commission or as required or authorized by law or treaty;

(2) Ocean transportation between foreign countries of supplies purchased with foreign currencies made available, or derived from funds that are made available, under the Foreign Assistance Act of 1961 (22 U.S.C. 2353); and

(3) Shipments of classified supplies when the classification prohibits the use of non-Government vessels.

(f) Guidance regarding fair and reasonable rates for privately owned U.S.-flag commercial vessels may be obtained from the Division of National Cargo, Office of Costs and Rates, Maritime Administration, 400 Seventh Street, SW, Washington, DC 20590, Phone: 202-366-4610.

(End of clause)

#### 52.245-1 PROPERTY RECORDS (APR 1984)

The Government shall maintain the Government's official property records in connection with Government property under this contract. The Government Property clause is hereby modified by deleting the requirement for the Contractor to maintain such records.

#### 52.246-12 INSPECTION OF CONSTRUCTION (AUG 1996)

(a) Definition. "Work" includes, but is not limited to, materials, workmanship, and manufacture and fabrication of components.

(b) The Contractor shall maintain an adequate inspection system and perform such inspections as will ensure that the work performed under the contract conforms to contract requirements. The Contractor shall maintain complete inspection records and make them available to the Government. All work shall be conducted under the general direction of the Contracting Officer and is subject to Government inspection and test at all places and at all reasonable times before acceptance to ensure strict compliance with the terms of the contract.

(c) Government inspections and tests are for the sole benefit of the Government and do not--

(1) Relieve the Contractor of responsibility for providing adequate quality control measures;

(2) Relieve the Contractor of responsibility for damage to or loss of the material before acceptance;

(3) Constitute or imply acceptance; or

(4) Affect the continuing rights of the Government after acceptance of the completed work under paragraph (i) of this section.

(d) The presence or absence of a Government inspector does not relieve the Contractor from any contract requirement, nor is the inspector authorized to change any term or condition of the specification without the Contracting Officer's written authorization.

(e) The Contractor shall promptly furnish, at no increase in contract price, all facilities, labor, and material reasonably needed for performing such safe and convenient inspections and tests as may be required by the Contracting Officer. The Government may charge to the Contractor any additional cost of inspection or test when work is not ready at the time specified by the Contractor for inspection or test, or when prior rejection makes reinspection or retest necessary. The Government shall perform all inspections and tests in a manner that will not unnecessarily delay the work. Special, full size, and performance tests shall be performed as described in the contract.

(f) The Contractor shall, without charge, replace or correct work found by the Government not to conform to contract requirements, unless in the public interest the Government consents to accept the work with an appropriate adjustment in contract price. The Contractor shall promptly segregate and remove rejected material from the premises.

(g) If the Contractor does not promptly replace or correct rejected work, the Government may (1) by contract or otherwise, replace or correct the work and charge the cost to the Contractor or (2) terminate for default the Contractor's right to proceed.

(h) If, before acceptance of the entire work, the Government decides to examine already completed work by removing it or tearing it out, the Contractor, on request, shall promptly furnish all necessary facilities, labor, and material. If the work is found to be defective or nonconforming in any material respect due to the fault of the Contractor or its subcontractors, the Contractor shall defray the expenses of the examination and of satisfactory reconstruction. However, if the work is found to meet contract requirements, the Contracting Officer shall make an equitable adjustment for the additional services involved in the examination and reconstruction, including, if completion of the work was thereby delayed, an extension of time.

(i) Unless otherwise specified in the contract, the Government shall accept, as promptly as practicable after completion and inspection, all work required by the contract or that portion of the work the Contracting Officer determines can be accepted separately. Acceptance shall be final and conclusive except for latent defects, fraud, gross mistakes amounting to fraud, or the Government's rights under any warranty or guarantee.

#### 52.246-21 WARRANTY OF CONSTRUCTION (MAR 1994)

(a) In addition to any other warranties in this contract, the Contractor warrants, except as provided in paragraph (i) of this clause, that work performed under this contract conforms to the contract requirements and is free of any defect in equipment, material, or design furnished, or workmanship performed by the Contractor or any subcontractor or supplier at any tier.

(b) This warranty shall continue for a period of 1 year from the date of final acceptance of the work. If the Government takes possession of any part of the work before final acceptance, this warranty shall continue for a period of 1 year from the date the Government takes possession.

(c) The Contractor shall remedy at the Contractor's expense any failure to conform, or any defect. In addition, the Contractor shall remedy at the Contractor's expense any damage to Government-owned or controlled real or personal property, when that damage is the result of--

(1) The Contractor's failure to conform to contract requirements; or

(2) Any defect of equipment, material, workmanship, or design furnished.

(d) The Contractor shall restore any work damaged in fulfilling the terms and conditions of this clause. The Contractor's warranty with respect to work repaired or replaced will run for 1 year from the date of repair or replacement.

(e) The Contracting Officer shall notify the Contractor, in writing, within a reasonable time after the discovery of any failure, defect, or damage.

(f) If the Contractor fails to remedy any failure, defect, or damage within a reasonable time after receipt of notice, the Government shall have the right to replace, repair, or otherwise remedy the failure, defect, or damage at the Contractor's expense.

(g) With respect to all warranties, express or implied, from subcontractors, manufacturers, or suppliers for work performed and materials furnished under this contract, the Contractor shall--

(1) Obtain all warranties that would be given in normal commercial practice;

(2) Require all warranties to be executed, in writing, for the benefit of the Government, if directed by the Contracting Officer; and

(3) Enforce all warranties for the benefit of the Government, if directed by the Contracting Officer.

(h) In the event the Contractor's warranty under paragraph (b) of this clause has expired, the Government may bring suit at its expense to enforce a subcontractor's, manufacturer's, or supplier's warranty.

(i) Unless a defect is caused by the negligence of the Contractor or subcontractor or supplier at any tier, the Contractor shall not be liable for the repair of any defects of material or design furnished by the Government nor for the repair of any damage that results from any defect in Government-furnished material or design.

(j) This warranty shall not limit the Government's rights under the Inspection and Acceptance clause of this contract with respect to latent defects, gross mistakes, or fraud.

(End of clause)

#### 52.248-3 VALUE ENGINEERING--CONSTRUCTION (FEB 2000)

(a) General. The Contractor is encouraged to develop, prepare, and submit value engineering change proposals (VECP's) voluntarily. The Contractor shall share in any instant contract savings realized from accepted VECP's, in accordance with paragraph (f) below.

(b) Definitions. "Collateral costs," as used in this clause, means agency costs of operation, maintenance, logistic support, or Government-furnished property.

"Collateral savings," as used in this clause, means those measurable net reductions resulting from a VECP in the agency's overall projected collateral costs, exclusive of acquisition savings, whether or not the acquisition cost changes.

"Contractor's development and implementation costs," as used in this clause, means those costs the Contractor incurs on a VECP specifically in developing, testing, preparing, and submitting the VECP, as well as those costs the Contractor incurs to make the contractual changes required by Government acceptance of a VECP.

"Government costs," as used in this clause, means those agency costs that result directly from developing and implementing the VECP, such as any net increases in the cost of testing, operations, maintenance, and logistic support. The term does not include the normal administrative costs of processing the VECP.

"Instant contract savings," as used in this clause, means the estimated reduction in Contractor cost of performance resulting from acceptance of the VECP, minus allowable Contractor's development and implementation costs, including subcontractors' development and implementation costs (see paragraph (h) below).

"Value engineering change proposal (VECP)" means a proposal that--

- (1) Requires a change to this, the instant contract, to implement; and
- (2) Results in reducing the contract price or estimated cost without impairing essential functions or characteristics; provided, that it does not involve a change--

- (i) In deliverable end item quantities only; or

- (ii) To the contract type only.

(c) VECP preparation. As a minimum, the Contractor shall include in each VECP the information described in subparagraphs (1) through (7) below. If the proposed change is affected by contractually required configuration management or similar procedures, the instructions in those procedures relating to format, identification, and priority assignment shall govern VECP preparation. The VECP shall include the following:

- (1) A description of the difference between the existing contract requirement and that proposed, the comparative advantages and disadvantages of each, a justification when an item's function or characteristics are being altered, and the effect of the change on the end item's performance.

- (2) A list and analysis of the contract requirements that must be changed if the VECP is accepted, including any suggested specification revisions.

- (3) A separate, detailed cost estimate for

- (i) the affected portions of the existing contract requirement and

- (ii) the VECP. The cost reduction associated with the VECP shall take into account the Contractor's allowable development and implementation costs, including any amount attributable to subcontracts under paragraph (h) below.

- (4) A description and estimate of costs the Government may incur in implementing the VECP, such as test and evaluation and operating and support costs.

- (5) A prediction of any effects the proposed change would have on collateral costs to the agency.

- (6) A statement of the time by which a contract modification accepting the VECP must be issued in order to achieve the maximum cost reduction, noting any effect on the contract completion time or delivery schedule.

- (7) Identification of any previous submissions of the VECP, including the dates submitted, the agencies and contract numbers involved, and previous Government actions, if known.

(d) Submission. The Contractor shall submit VECP's to the Resident Engineer at the worksite, with a copy to the Contracting Officer.

(e) Government action.

(1) The Contracting Officer will notify the Contractor of the status of the VECP within 45 calendar days after the contracting office receives it. If additional time is required, the Contracting Officer will notify the Contractor within the 45-day period and provide the reason for the delay and the expected date of the decision. The Government will process VECP's expeditiously; however, it shall not be liable for any delay in acting upon a VECP.

If the VECP is not accepted, the Contracting Officer will notify the Contractor in writing, explaining the reasons for rejection. The Contractor may withdraw any VECP, in whole or in part, at any time before it is accepted by the Government. The Contracting Officer may require that the Contractor provide written notification before undertaking significant expenditures for VECP effort.

Any VECP may be accepted, in whole or in part, by the Contracting Officer's award of a modification to this contract citing this clause. The Contracting Officer may accept the VECP, even though an agreement on price reduction has not been reached, by issuing the Contractor a notice to proceed with the change. Until a notice to proceed is issued or a contract modification applies a VECP to this contract, the Contractor shall perform in accordance with the existing contract. The decision to accept or reject all or part of any VECP is a unilateral decision made solely at the discretion of the Contracting Officer.

(f) Sharing.

(1) Rates. The Government's share of savings is determined by subtracting Government costs from instant contract savings and multiplying the result by

- (i) 45 percent for fixed-price contracts or
- (ii) 75 percent for cost-reimbursement contracts.

(2) Payment. Payment of any share due the Contractor for use of a VECP on this contract shall be authorized by a modification to this contract to--

- (i) Accept the VECP;
- (ii) Reduce the contract price or estimated cost by the amount of instant contract savings; and
- (iii) Provide the Contractor's share of savings by adding the amount calculated to the contract price or fee.

(g) Collateral savings. If a VECP is accepted, the Contracting Officer will increase the instant contract amount by 20 percent of any projected collateral savings determined to be realized in a typical year of use after subtracting any Government costs not previously offset. However, the Contractor's share of collateral savings will not exceed the contract's firm-fixed-price or estimated cost, at the time the VECP is accepted, or \$100,000, whichever is greater. The Contracting Officer is the sole determiner of the amount of collateral savings.

(h) Subcontracts. The Contractor shall include an appropriate value engineering clause in any subcontract of \$50,000 or more and may include one in subcontracts of lesser value. In computing any adjustment in this contract's price under paragraph (f) above, the Contractor's allowable development and implementation costs shall include any subcontractor's allowable development and implementation costs clearly resulting from a VECP accepted by the Government under this contract, but shall exclude any value engineering incentive payments to a subcontractor. The Contractor may choose any arrangement for subcontractor value engineering incentive payments; provided, that these payments shall not reduce the Government's share of the savings resulting from the VECP.

(i) Data. The Contractor may restrict the Government's right to use any part of a VECP or the supporting data by marking the following legend on the affected parts:

"These data, furnished under the Value Engineering-- Construction clause of contract . . . . ., shall not be disclosed outside the Government or duplicated, used, or disclosed, in whole or in part, for any purpose other than to evaluate a value engineering change proposal submitted under the clause. This restriction does not limit the Government's right to use information contained in these data if it has been obtained or is otherwise available from the Contractor or from another source without limitations." If a VECP is accepted, the Contractor hereby grants the Government unlimited rights in the VECP and supporting data, except that, with respect to data qualifying and submitted as limited rights technical data, the Government shall have the rights specified in the contract

modification implementing the VECP and shall appropriately mark the data. (The terms "unlimited rights" and "limited rights" are defined in Part 27 of the Federal Acquisition Regulation.)

(End of clause)

#### 252.248-7000 PREPARATION OF VALUE ENGINEERING CHANGE PROPOSALS (MAY 1994)

Prepare value engineering change proposals, for submission pursuant to the value engineering clause of this contract, in the format prescribed by the version of MIL-STD-973 in effect on the date of contract award.

(End of clause)

#### 52.249-2 TERMINATION FOR CONVENIENCE OF THE GOVERNMENT (FIXED-PRICE) (SEP 1996)

(a) The Government may terminate performance of work under this contract in whole or, from time to time, in part if the Contracting Officer determines that a termination is in the Government's interest. The Contracting Officer shall terminate by delivering to the Contractor a Notice of Termination specifying the extent of termination and the effective date.

(b) After receipt of a Notice of Termination, and except as directed by the Contracting Officer, the Contractor shall immediately proceed with the following obligations, regardless of any delay in determining or adjusting any amounts due under this clause:

(1) Stop work as specified in the notice.

(2) Place no further subcontracts or orders (referred to as subcontracts in this clause) for materials, services, or facilities, except as necessary to complete the continued portion of the contract.

(3) Terminate all subcontracts to the extent they relate to the work terminated.

(4) Assign to the Government, as directed by the Contracting Officer, all right, title, and interest of the Contractor under the subcontracts terminated, in which case the Government shall have the right to settle or to pay any termination settlement proposal arising out of those terminations.

(5) With approval or ratification to the extent required by the Contracting Officer, settle all outstanding liabilities and termination settlement proposals arising from the termination of subcontracts; the approval or ratification will be final for purposes of this clause.

(6) As directed by the Contracting Officer, transfer title and deliver to the Government (i) the fabricated or unfabricated parts, work in process, completed work, supplies, and other material produced or acquired for the work terminated, and (ii) the completed or partially completed plans, drawings, information, and other property that, if the contract had been completed, would be required to be furnished to the Government.

(7) Complete performance of the work not terminated.

(8) Take any action that may be necessary, or that the Contracting Officer may direct, for the protection and preservation of the property related to this contract that is in the possession of the Contractor and in which the Government has or may acquire an interest.

(9) Use its best efforts to sell, as directed or authorized by the Contracting Officer, any property of the types referred to in subparagraph (b)(6) of this clause; provided, however, that the Contractor (i) is not required to extend credit to any purchaser and (ii) may acquire the property under the conditions prescribed by, and at prices approved by, the Contracting Officer. The proceeds of any transfer or disposition will be applied to reduce any payments to be made

by the Government under this contract, credited to the price or cost of the work, or paid in any other manner directed by the Contracting Officer.

(c) The Contractor shall submit complete termination inventory schedules no later than 120 days from the effective date of termination, unless extended in writing by the Contracting Officer upon written request of the Contractor within this 120-day period.

(d) After expiration of the plant clearance period as defined in Subpart 45.6 of the Federal Acquisition Regulation, the Contractor may submit to the Contracting Officer a list, certified as to quantity and quality, of termination inventory not previously disposed of, excluding items authorized for disposition by the Contracting Officer. The Contractor may request the Government to remove those items or enter into an agreement for their storage. Within 15 days, the Government will accept title to those items and remove them or enter into a storage agreement. The Contracting Officer may verify the list upon removal of the items, or if stored, within 45 days from submission of the list, and shall correct the list, as necessary, before final settlement.

(e) After termination, the Contractor shall submit a final termination settlement proposal to the Contracting Officer in the form and with the certification prescribed by the Contracting Officer. The Contractor shall submit the proposal promptly, but no later than 1 year from the effective date of termination, unless extended in writing by the Contracting Officer upon written request of the Contractor within this 1-year period. However, if the Contracting Officer determines that the facts justify it, a termination settlement proposal may be received and acted on after 1 year or any extension. If the Contractor fails to submit the proposal within the time allowed, the Contracting Officer may determine, on the basis of information available, the amount, if any, due the Contractor because of the termination and shall pay the amount determined.

(f) Subject to paragraph (e) of this clause, the Contractor and the Contracting Officer may agree upon the whole or any part of the amount to be paid or remaining to be paid because of the termination. The amount may include a reasonable allowance for profit on work done. However, the agreed amount, whether under this paragraph (g) or paragraph (g) of this clause, exclusive of costs shown in subparagraph (g)(3) of this clause, may not exceed the total contract price as reduced by (1) the amount of payments previously made and (2) the contract price of work not terminated. The contract shall be modified, and the Contractor paid the agreed amount. Paragraph (g) of this clause shall not limit, restrict, or affect the amount that may be agreed upon to be paid under this paragraph.

(g) If the Contractor and the Contracting Officer fail to agree on the whole amount to be paid because of the termination of work, the Contracting Officer shall pay the Contractor the amounts determined by the Contracting Officer as follows, but without duplication of any amounts agreed on under paragraph (f) of this clause:

(1) The contract price for completed supplies or services accepted by the Government (or sold or acquired under subparagraph (b)(9) of this clause) not previously paid for, adjusted for any saving of freight and other charges.

(2) The total of--

(i) The costs incurred in the performance of the work terminated, including initial costs and preparatory expense allocable thereto, but excluding any costs attributable to supplies or services paid or to be paid under subparagraph (f)(1) of this clause;

(ii) The cost of settling and paying termination settlement proposals under terminated subcontracts that are properly chargeable to the terminated portion of the contract if not included in subdivision (g)(2)(i) of this clause; and

(iii) A sum, as profit on subdivision (g)(2)(i) of this clause, determined by the Contracting Officer under 49.202 of the Federal Acquisition Regulation, in effect on the date of this contract, to be fair and reasonable; however, if it appears that the Contractor would have sustained a loss on the entire contract had it been completed, the Contracting Officer shall allow no profit under this subdivision (iii) and shall reduce the settlement to reflect the indicated rate of loss.

(3) The reasonable costs of settlement of the work terminated, including--

(i) Accounting, legal, clerical, and other expenses reasonably necessary for the preparation of termination settlement proposals and supporting data;

(ii) The termination and settlement of subcontracts (excluding the amounts of such settlements); and

(iii) Storage, transportation, and other costs incurred, reasonably necessary for the preservation, protection, or disposition of the termination inventory.

(h) Except for normal spoilage, and except to the extent that the Government expressly assumed the risk of loss, the Contracting Officer shall exclude from the amounts payable to the Contractor under paragraph (g) of this clause, the fair value, as determined by the Contracting Officer, of property that is destroyed, lost, stolen, or damaged so as to become undeliverable to the Government or to a buyer.

(i) The cost principles and procedures of Part 31 of the Federal Acquisition Regulation, in effect on the date of this contract, shall govern all costs claimed, agreed to, or determined under this clause.

(j) The Contractor shall have the right of appeal, under the Disputes clause, from any determination made by the Contracting Officer under paragraph (e), (g), or (l) of this clause, except that if the Contractor failed to submit the termination settlement proposal or request for equitable adjustment within the time provided in paragraph (e) or (l), respectively, and failed to request a time extension, there is no right of appeal.

(k) In arriving at the amount due the Contractor under this clause, there shall be deducted--

(1) All unliquidated advance or other payments to the Contractor under the terminated portion of this contract;

(2) Any claim which the Government has against the Contractor under this contract; and

(3) The agreed price for, or the proceeds of sale of, materials, supplies, or other things acquired by the Contractor or sold under the provisions of this clause and not recovered by or credited to the Government.

(l) If the termination is partial, the Contractor may file a proposal with the Contracting Officer for an equitable adjustment of the price(s) of the continued portion of the contract. The Contracting Officer shall make any equitable adjustment agreed upon. Any proposal by the Contractor for an equitable adjustment under this clause shall be requested within 90 days from the effective date of termination unless extended in writing by the Contracting Officer.

(m)(1) The Government may, under the terms and conditions it prescribes, make partial payments and payments against costs incurred by the Contractor for the terminated portion of the contract, if the Contracting Officer believes the total of these payments will not exceed the amount to which the Contractor will be entitled.

(2) If the total payments exceed the amount finally determined to be due, the Contractor shall repay the excess to the Government upon demand, together with interest computed at the rate established by the Secretary of the Treasury under 50 U.S.C. App. 1215(b)(2). Interest shall be computed for the period from the date the excess payment is received by the Contractor to the date the excess is repaid. Interest shall not be charged on any excess payment due to a reduction in the Contractor's termination settlement proposal because of retention or other disposition of termination inventory until 10 days after the date of the retention or disposition, or a later date determined by the Contracting Officer because of the circumstances.

(n) Unless otherwise provided in this contract or by statute, the Contractor shall maintain all records and documents relating to the terminated portion of this contract for 3 years after final settlement. This includes all books and other evidence bearing on the Contractor's costs and expenses under this contract. The Contractor shall make these records and documents available to the Government, at the Contractor's office, at all reasonable times, without any direct charge. If approved by the Contracting Officer, photographs, microphotographs, or other authentic reproductions may be maintained instead of original records and documents.



## 52.249-10 DEFAULT (FIXED-PRICE CONSTRUCTION) (APR 1984)

(a) If the Contractor refuses or fails to prosecute the work or any separable part, with the diligence that will insure its completion within the time specified in this contract including any extension, or fails to complete the work within this time, the Government may, by written notice to the Contractor, terminate the right to proceed with the work (or the separable part of the work) that has been delayed. In this event, the Government may take over the work and complete it by contract or otherwise, and may take possession of and use any materials, appliances, and plant on the work site necessary for completing the work. The Contractor and its sureties shall be liable for any damage to the Government resulting from the Contractor's refusal or failure to complete the work within the specified time, whether or not the Contractor's right to proceed with the work is terminated. This liability includes any increased costs incurred by the Government in completing the work.

(b) The Contractor's right to proceed shall not be terminated nor the Contractor charged with damages under this clause, if--

(1) The delay in completing the work arises from unforeseeable causes beyond the control and without the fault or negligence of the Contractor. Examples of such causes include

(i) acts of God or of the public enemy,

(ii) acts of the Government in either its sovereign or contractual capacity,

(iii) acts of another Contractor in the performance of a contract with the Government,

(iv) fires,

(v) floods,

(vi) epidemics,

(vii) quarantine restrictions,

(viii) strikes,

(ix) freight embargoes,

(x) unusually severe weather, or delays of subcontractors or suppliers at any tier arising from unforeseeable causes beyond the control and without the fault or negligence of both the Contractor and the subcontractors or suppliers; and

(2) The Contractor, within 10 days from the beginning of any delay (unless extended by the Contracting Officer), notifies the Contracting Officer in writing of the causes of delay. The Contracting Officer shall ascertain the facts and the extent of delay. If, in the judgment of the Contracting Officer, the findings of fact warrant such action, the time for completing the work shall be extended. The findings of the Contracting Officer shall be final and conclusive on the parties, but subject to appeal under the Disputes clause.

(c) If, after termination of the Contractor's right to proceed, it is determined that the Contractor was not in default, or that the delay was excusable, the rights and obligations of the parties will be the same as if the termination had been issued for the convenience of the Government.

The rights and remedies of the Government in this clause are in addition to any other rights and remedies provided by law or under this contract.



## TABLE OF CONTENTS

### SPECIAL CLAUSES

PARAGRAPH NO.	PARAGRAPH TITLE
SC-1	COMMENCEMENT, PROSECUTION, AND COMPLETION OF WORK
SC-1.1	<u>DELETED</u> – OPTION FOR INCREASED QUANTITY
SC-2	LIQUIDATED DAMAGES - CONSTRUCTION
SC-3	<u>DELETED</u> – TIME EXTENSIONS
SC-4	VARIATIONS IN ESTIMATED QUANTITIES - SUBDIVIDED ITEMS
SC-5	INSURANCE - WORK ON A GOVERNMENT INSTALLATION
SC-6	CONTINUING CONTRACTS
SC-7	PERFORMANCE OF WORK BY THE CONTRACTOR
SC-8	PHYSICAL DATA
SC-9	<u>DELETED</u> – QUANTITY SURVEYS
SC-10	LAYOUT OF WORK
SC-11	PAYMENT FOR MOBILIZATION AND DEMOBILIZATION
SC-12	<u>DELETED</u> – AIRFIELD SAFETY PRECAUTIONS
SC-13	<u>DELETED</u> – IDENTIFICATION OF GOVERNMENT-FURNISHED PROPERTY
SC-14	EQUIPMENT OWNERSHIP AND OPERATING EXPENSE SCHEDULE
SC-15	PAYMENT FOR MATERIALS DELIVERED OFF-SITE
SC-16	<u>DELETED</u> – ORDER OF PRECEDENCE
SC-17	<u>DELETED</u> – LIMITATION OF PAYMENT FOR DESIGN
SC-18	CONTRACT DRAWINGS, MAPS AND SPECIFICATIONS
SC-19.	<u>DELETED</u> – TECHNICAL PROPOSAL - COPIES TO BE FURNISHED UPON AWARD
SC-20.	<u>DELETED</u> – COMPLIANCE CERTIFICATION
SC-21.	<u>DELETED</u> – VALUE ENGINEERING
SC-22.	<u>DELETED</u> – EPA ENERGY STAR
SC-23	YEAR 2000 COMPLIANCE
SC-24	RECOVERED MATERIALS



## SPECIAL CLAUSES

### SC-1. COMMENCEMENT, PROSECUTION, AND COMPLETION OF WORK (APR 1984) (FAR 52.211-10).

The Contractor shall be required to (a) commence work under this Contract within 10 calendar days after the date the Contractor receives the notice to proceed, (b) prosecute the work diligently, and (c) complete the entire work ready for use not later than 420 calendar days after date of receipt by Contractor of notice to proceed. The time stated for completion shall include final cleanup of the premises.

### SC-2. LIQUIDATED DAMAGES - CONSTRUCTION (APR 1984) (FAR 52.211-12)

(a) If the Contractor fails to complete the work within the time specified in the Contract, or any extension, the Contractor shall pay to the Government as liquidated damages, the sum of \$1,012.00 for each day of delay.

(b) If the Government terminates the Contractor's right to proceed, the resulting damage will consist of liquidated damages until such reasonable time as may be required for final completion of the work together with any increased costs occasioned the Government in completing the work.

(c) If the Government does not terminate the Contractor's right to proceed, the resulting damage will consist of liquidated damages until the work is completed or accepted.

(d) Exception to Liquidated Damage: In case the Contracting Officer determines that completion of work stated above in paragraph Exception to Completion Period(s) is not feasible during the completion period(s) stated in SC-1, such work will be exempted from liquidated damages.

### SC-3. DELETED.

### SC-4. VARIATIONS IN ESTIMATED QUANTITIES - SUBDIVIDED ITEMS (MAR 1995) (EFARS 52.212-5001): This variation in estimated quantities clause is applicable only to Item Nos. 0008 and 0009.

(a) Variation from the estimated quantity in the actual work performed under any second or subsequent sub-item or elimination of all work under such a second or subsequent sub-item will not be the basis for an adjustment in contract unit price.

(b) Where the actual quantity of work performed for Items Nos. 0008 and 0009 is less than 85 % of the quantity of the first sub-item listed under such item, the Contractor will be paid at the contract unit price for that sub-item for the actual quantity of work performed and, in addition, an equitable adjustment shall be made in accordance with the clause FAR 52.211-18, Variation in Estimated Quantities.

(c) If the actual quantity of work performed under Items Nos. 0008 and 0009 exceeds 115 percent or is less than 85 percent of the total estimated quantity of the sub-item under that item and/or if the quantity of the work performed under the second sub-item or any subsequent sub-item under Items Nos. 0008 and

0009 exceeds 115 % or is less than 85 % of the estimated quantity of any such sub-item, and if such variation causes an increase or a decrease in the time required for performance of this contract the contract completion time will be adjusted in accordance with the clause FAR 52.211-18, Variation in Estimated Quantities.

SC-5. INSURANCE (SEP 1989) (FAR 52.228-5)

(a) The Contractor shall, at its own expense, provide and maintain during the entire performance period of this Contract at least the kinds and minimum amounts of insurance required in the Insurance Liability Schedule or elsewhere in the Contract.

(b) Before commencing work under this Contract, the Contractor shall certify to the Contracting Officer in writing that the required insurance has been obtained. The policies evidencing required insurance shall contain an endorsement to the effect that any cancellation or any material change adversely affecting the Government's interest shall not be effective:

(1) for such period as the laws of the State in which this Contract is to be performed prescribe;  
or

(2) until 30 days after the insurer or the Contractor gives written notice to the Contracting Officer, whichever period is longer.

(c) The Contractor shall insert the substance of this clause, including this paragraph (c), in subcontracts under this Contract that require work on a Government installation and shall require subcontractors to provide and maintain the insurance required in the Schedule or elsewhere in the Contract. The Contractor shall maintain a copy of all subcontractors' proofs of required insurance, and shall make copies available to the Contracting Officer upon request.

(d) Insurance Liability Schedule (FAR 28.307-2)

(1) Workers' compensation and employer's liability. Contractors are required to comply with applicable Federal and State workers' compensation and occupational disease statutes. If occupational diseases are not compensable under those statutes, they shall be covered under the employer's liability section of the insurance policy, except when Contract operations are so commingled with a Contractor's commercial operation that it would not be practical to require this coverage. Employer's liability coverage of at least \$100,000 shall be required, except in states with exclusive or monopolistic funds that do not permit workers' compensation to be written by private carriers.

(2) General Liability.

(a) The Contracting Officer shall require bodily injury liability insurance coverage written on the comprehensive form of policy of at least \$500,000 per occurrence.

(b) Property damage liability insurance shall be required only in special circumstances as determined by the agency.

(3) Automobile liability. The Contracting Officer shall require automobile liability insurance written on the comprehensive form of policy. The policy shall provide for bodily injury and property damage liability covering the operation of all automobiles used in connection with performing the Contract. Policies covering automobiles operated in the United States shall provide coverage of at least \$200,000 per person and \$500,000 per occurrence for bodily injury and \$20,000 per occurrence for property damage. The amount of liability coverage on other policies shall be commensurate with any legal requirements of the locality and sufficient to meet normal and customary claims.

(4) Aircraft public and passenger liability. When aircraft are used in connection with performing the Contract, the Contracting Officer shall require aircraft public and passenger liability insurance. Coverage shall be at least \$200,000 per person and \$500,000 per occurrence for bodily injury, other than passenger liability, and \$200,000 per occurrence for property damage. Coverage for passenger liability bodily injury shall be at least \$200,000 multiplied by the number of seats or passengers, whichever is greater.

(5) Vessel liability. When Contract performance involves use of vessels, the Contracting Officer shall require, as determined by the agency, vessel collision liability and protection and indemnity liability insurance.

(6) Environmental Liability. If this contract includes the transport, treatment, storage, or disposal of hazardous material waste the following coverage is required.

The Contractor shall ensure the transporter and disposal facility have liability insurance in effect for claims arising out of the death or bodily injury and property damage from hazardous material/waste transport, treatment, storage and disposal, including vehicle liability and legal defense costs in the amount of \$1,000,000.00 as evidenced by a certificate of insurance for General, Automobile, and Environmental Liability Coverage. Proof of this insurance shall be provided to the Contracting Officer.

#### SC-6. CONTINUING CONTRACTS (EFARS 52.232-50002) (MAR 1995):

(a) Funds are not available at the inception of this contract to cover the entire contract price. The sum of \$150,000.00 has been reserved for this contract and is available for payments to the Contractor during the current fiscal year. It is expected that Congress will make appropriations for future fiscal years from which additional funds, together with funds provided by one or more non-federal project sponsors will be reserved for this contract. The liability of the United States for payments beyond the funds reserved for this contract is contingent on the reservation of additional funds.

(b) Failure to make payments in excess of the amount currently reserved, or that may be reserved from time to time, shall not be considered a breach of this contract, and shall not entitle the Contractor to a price adjustment under the terms of this contract, except as specifically provided in paragraphs (e) and (h) below.

(c) The Government may at any time reserve additional funds for payments under the contract if there are funds available for such purpose. The Contracting Officer will promptly notify the Contractor of any additional funds reserved for the contract by issuing an administrative modification to the contract.

(d) If earnings will be such that funds reserved for the contract will be exhausted before the end of any fiscal year, the contractor shall give written notice to the Contracting Officer of the estimated date of

exhaustion and the amount of additional funds which will be needed to meet payments due or to become due under the contract during that fiscal year. This notice shall be given not less than 45 nor more than 60 days prior to the estimated date of exhaustion.

(e) No payments will be made after exhaustion of funds except to the extent that additional funds are reserved for the contract. If and when sufficient additional funds are reserved, the Contractor shall be entitled to simple interest on any payment that the Contracting Officer determines was actually earned under the terms of this contract and would have been made except for exhaustion of funds. Interest shall be computed from the time such payment would otherwise have been made until actually or constructively made, and shall be at the rate established by the Secretary of the Treasury pursuant to Public Law 92-41, 85 Stat 97, as in effect on the first day of the delay in such payment.

(f) Any suspension, delay, or interruption of work arising from exhaustion or anticipated exhaustion of funds shall not constitute a breach of this contract and shall not entitle the contractor to any price adjustment under a "Suspension of Work" or similar clause or in any other manner under this contract.

(g) An equitable adjustment in performance time shall be made for any increase in the time required for performance of any part of the work arising from exhaustion of funds or the reasonable anticipation of exhaustion of funds.

(h) If, upon the expiration of sixty (60) days after the beginning of the fiscal year following an exhaustion of funds, the Government has failed to reserve sufficient additional funds to cover payments otherwise due, the contractor, by written notice delivered to the Contracting Officer at any time before such additional funds are reserved, may elect to treat his right to proceed with the work as having been terminated. Such a termination shall be at no cost to the Government, except that, to the extent that additional funds to make payment therefore are allocated to this contract, it may be treated as a termination for the convenience of the Government.

(i) If at any time, it becomes apparent that the funds reserved for any fiscal year are in excess of the funds required to meet all payments due or to become due the contractor because of work performed and to be performed under the contract during the fiscal year, the Government reserves the right, after notice to the contractor, to reduce said reservation by the amount of such excess.

(j) The term "Reservation" means moneys that have been set aside and made available for payment under this Contract.

SC-7. PERFORMANCE OF WORK BY THE CONTRACTOR (APR 1984) (FAR 52.236-1): The Contractor shall perform on the site, and with its own organization, work equivalent to at least fifteen percent (15%) of the total amount of work to be performed under the Contract. The percentage may be reduced by a supplemental agreement to this Contract if, during performing the work, the Contractor requests a reduction and the Contracting Officer determines that the reduction would be to the advantage of the Government.

SC-8. PHYSICAL DATA (APR 1984) (FAR 52.236-4): Data and information furnished or referred to below is for the Contractor's information. The Government will not be responsible for any interpretation of or conclusion drawn from the data or information by the Contractor.



(a) Physical Conditions: The indications of physical conditions on the drawings and in the specifications are the result of site investigations by test holes shown on the drawings.

(b) Weather Conditions: Each bidder shall be satisfied before submitting his bid as to the hazards likely to arise from weather conditions. Complete weather records and reports may be obtained from any National Weather Service Office.

(c) Transportation Facilities: Each bidder, before submitting his bid, shall make an investigation of the conditions of existing public and private roads and of clearances, restrictions, bridge load limits, and other limitations affecting transportation and ingress and egress at the jobsite. The unavailability of transportation facilities or limitations thereon shall not become a basis for claims for damages or extension of time for completion of the work.

(d) Right-of-way: The right-of-way for the work covered by these specifications will be furnished by the Government. The Contractor may use such portions of the land within the right-of-way not otherwise occupied as may be designated by the Contracting Officer. The Contractor shall, without expense to the Government, and at any time during the progress of the work when space is needed within the right-of-way for any other purposes, promptly vacate and clean up any part of the grounds that have been allotted to, or have been in use by, him when directed to do so by the Contracting Officer. The Contractor shall keep the buildings and grounds in use by him at the site of the work in an orderly and sanitary condition. Should the Contractor require additional working space or lands for material yards, job offices, or other purposes, he shall obtain such additional lands or easements at his expense.

SC-9 DELETED.

SC-10. LAYOUT OF WORK (APR 1984) (FAR 52.236-17): The Contractor shall lay out its work from Government-established base lines and bench marks indicated on the drawings, and shall be responsible for all measurements in connection with the layout. The Contractor shall furnish, at its own expense, all stakes, templates, platforms, equipment, tools, materials, and labor required to lay out any part of the work. The Contractor shall be responsible for executing the work to the lines and grades that may be established or indicated by the Contracting Officer. The Contractor shall also be responsible for maintaining and preserving all stakes and other marks established by the Contracting Officer until authorized to remove them. If such marks are destroyed by the Contractor or through its negligence before their removal is authorized, the Contracting Officer may replace them and deduct the expense of the replacement from any amounts due, or to become due, to the Contractor.

SC-11. PAYMENT FOR MOBILIZATION AND DEMOBILIZATION. Payment No. 0001 (DEC 1991) (FAR 52.236-7004):

(a) The Government will pay all costs for the mobilization and demobilization of all of the Contractor's plant and equipment at the contract lump sum price for this item.

(1) Eighty percent (80%) of the lump sum price upon completion of the Contractor's mobilization at the work site.

(2) The remaining twenty percent (20%) upon completion of the demobilization.

(b) The Contracting Officer may require the Contractor to furnish cost data to justify this portion of the bid if the Contracting Officer believes that the percentages in paragraphs (a)(1) and (2) of this clause do not bear a reasonable relation to the cost of the work in this contract.

(1) Failure to justify such price to the satisfaction of the Contracting Officer will result in payment, as determined by the Contracting Officer, of --

- (i) Actual mobilization costs at completion of mobilization;
- (ii) Actual demobilization costs at completion of demobilization; and
- (iii) The remainder of this item in the final payment under this contract.

(2) The Contracting Officer's determination of the actual costs in paragraph (b)(1) of this clause is not subject to appeal.

SC-12 THROUGH SC-13 DELETED.

SC-14. EQUIPMENT OWNERSHIP AND OPERATING EXPENSE SCHEDULE (MAR 1995)-(EFARS 52.231-5000)

(a) This clause does not apply to terminations. See 52.249-5000, Basis for Settlement of Proposals and FAR Part 49.

(b) Allowable cost for construction and marine plant and equipment in sound workable condition owned or controlled and furnished by a contractor or subcontractor at any tier shall be based on actual cost data for each piece of equipment or groups of similar serial and series for which the Government can determine both ownership and operating costs from the contractor's accounting records. When both ownership and operating costs cannot be determined for any piece of equipment or groups of similar serial or series equipment from the contractor's accounting records, costs for that equipment shall be based upon the applicable provisions of EP 1110-1-8, Construction Equipment Ownership and Operating Expense Schedule, Region VIII. Working conditions shall be considered to be average for determining equipment rates using the schedule unless specified otherwise by the contracting officer. For equipment not included in the schedule, rates for comparable pieces of equipment may be used or a rate may be developed using the formula provided in the schedule. For forward pricing, the schedule in effect at the time of negotiations shall apply. For retroactive pricing, the schedule in effect at the time the work was performed shall apply.

(c) Equipment rental costs are allowable, subject to the provisions of FAR 31.105(d)(ii) and FAR 31.205-36. Rates for equipment rented from an organization under common control, lease-purchase arrangements, and sale-leaseback arrangements, will be determined using the schedule, except that actual rates will be used for equipment leased from an organization under common control that has an established practice of leasing the same or similar equipment to unaffiliated lessees.

(d) When actual equipment costs are proposed and the total amount of the pricing action exceeds the small purchase threshold, the contracting officer shall request the contractor to submit either certified cost or pricing data, or partial/limited data, as appropriate. The data shall be submitted on Standard Form 1411, Contract Pricing Proposal Cover Sheet.

(e) Copies of EP1110-1-8 "Construction Equipment Ownership and Operating Expense Schedule" Volumes 1 through 12 are available in Portable Document Format (PDF) and can be viewed or downloaded at <http://www.usace.army.mil/inet/usace-docs/eng-pamphlets/cecw.htm>. A CD-ROM containing (Volumes 1-12) is available through either the Superintendent of Documents or Government bookstores. For additional information telephone 202-512-2250, or access on the Internet at [http://www.access.gpo.gov/su\\_docs](http://www.access.gpo.gov/su_docs).

SC-15. PAYMENT FOR MATERIALS DELIVERED OFF-SITE (MAR 1995)-(EFARS 52.232-5000)

(a) Pursuant to FAR clause 52.232-5, Payments Under Fixed Priced Construction Contracts, materials delivered to the contractor at locations other than the site of the work may be taken into consideration in making payments if included in payment estimates and if all the conditions of the General Provisions are fulfilled. Payment for items delivered to locations other than the work site will be limited to: (1) materials required by the technical provisions; or (2) materials that have been fabricated to the point where they are identifiable to an item of work required under this contract.

(b) Such payment will be made only after receipt of paid or receipted invoices or invoices with canceled check showing title to the items in the prime contractor and including the value of material and labor incorporated into the item. In addition to petroleum products, payment for materials delivered off-site is limited to the following items: Any other construction material stored offsite may be considered in determining the amount of a progress payment.

SC-16 AND SC-17 DELETED.

SC-18. CONTRACT DRAWINGS, MAPS, AND SPECIFICATIONS (OCT 1996) (52.0236-4001 EBS)

(a) The Government--

(1) Will provide the Contractor, without charge, one set of contract drawings and one set of specifications in electronic format on a compact disk. The Government will not give the Contractor any hard copy paper drawings or specifications for any contract resulting from this solicitation.

(b) The Contractor shall--

(1) check all drawings furnished immediately upon receipt;

(2) Compare all drawings and verify the figures before laying out the work;

(3) Promptly notify the Contracting Officer of any discrepancies;

and

(4) Be responsible for any errors which might have been avoided by complying with this paragraph (b).

(c) Large scale drawings shall, in general, govern small scale drawings. Figures marked on drawings shall, in general, be followed in preference to scale measurements.

(d) Omissions from the drawings or specifications or the misdescription of details of work which are manifestly necessary to carry out the intent of the drawings and specifications, or which are customarily performed, shall not relieve the Contractor from performing such omitted or misdescribed details of the work, but shall be performed as if fully and correctly set forth and described in the drawings and specifications.

(e) The work shall conform to the specifications and the contract drawings identified in the index of drawings attached at the end of the Special Clauses.

SC-19 THROUGH SC-22 DELETED.

SC-23. YEAR 2000 COMPLIANCE:

a. In accordance with FAR 39.106, the Contractor shall ensure that with respect to any design, construction, goods, or services under this contract as well as any subsequent task/delivery orders issued under this contract (if applicable), all information technology contained therein shall be Year 2000 compliant. Specifically:

b. The Contractor shall:

(1) Perform, maintain, and provide an inventory of all major components to include structures, equipment, items, parts, and furnishings under this contract and each task/delivery order which may be affected by the Year 2000 compliance requirement.

(2) Indicate whether each component is currently Year 2000 compliant or requires an upgrade for compliance prior to Government acceptance.

SC-24. RECOVERED MATERIALS: The Corps of Engineers encourages all bidders to utilize recovered materials to the maximum extent practicable. The attached APPENDIX R contains procurement guidelines for products containing recovered materials.

## APPENDIX R

### PART 247 - COMPREHENSIVE PROCUREMENT GUIDELINE FOR PRODUCTS CONTAINING RECOVERED MATERIALS

40 CFR Ch. 1 (9-1-99 Edition)

#### Subpart B-Item Designations

§ 247.10 Paper and paper products.

Paper and paper products, excluding building and construction paper grades.

§ 247.11 Vehicular products.

- (a) Lubricating oils containing re-refined oil, including engine lubricating oils, hydraulic fluids, and gear oils, excluding marine and aviation oils.
- (b) Tires, excluding airplane tire
- (e) Reclaimed engine coolants, excluding coolants used in non-vehicular applications.

247.12 Construction products.

- (a) Building insulation product including the following items:
  - (1) Loose-fill insulation, including but not limited to cellulose fiber, mineral fibers (fiberglass and rock vermiculite, and perlite;
  - (2) Blanket and batt insulation, including but not limited to mineral fibers (fiberglass and rock wool).
  - (3) Board (sheathing, roof decking wall panel) insulation, including but not limited to structural fiberboard and laminated paperboard products perlite composite board, polyurethane, polyisocyanurate, polystyrene, phenolics, and composites; and
  - (4) Spray-in-place insulation, including but not limited to foam-in-place polyurethane and polyisocyanurate and spray-on cellulose.
- (b) Structural fiberboard and laminated paperboard products for applications other than building insulation, including building board, sheathing shingle backer, sound deadening board, roof insulating board, insulating wallboard, acoustical and non-acoustical ceiling tile, acoustical and non-acoustical lay-in panels, floor underlayments, and roof overlay (cover board).
- (c) Cement and concrete, including concrete products such as pipe and block, containing coal fly as ground granulated blast furnace (GGBF) slag.
- (d) Carpet made of polyester fiber use in low- and medium-wear applications.
- (e) Floor tiles and patio block containing recovered rubber or plastic.
- (f) Shower and restroom dividers/partitions containing recovered plastic or steel.
- (g) (1) Consolidated latex paint used for covering graffiti; and
- (2) Reprocessed latex paint used for interior and exterior architectural applications such as wallboard, ceilings, and trim; gutter boards; and concrete, stucco, masonry, wood and metal surfaces.

§247.13 Transportation products.

- (a) Traffic barricades and traffic cones used in controlling or restricting vehicular traffic.

- (b) Parking stops made from concrete or containing recovered plastic or rubber.
- (c) Channelizers containing recovered plastic or rubber.
- (d) Delineators containing recovered plastic, rubber, or steel.
- (e) Flexible delineators containing recovered plastic.

§ 247.14 Park and recreation products

- (a) Playground surfaces and running tracks containing recovered rubber or plastic.
- (b) Plastic fencing containing recovered plastic for use in controlling snow or sand drifting and as a warning/safety barrier in construction or other applications.

247.15 Landscaping products.

- (a) Hydraulic mulch products containing recovered paper or recovered wood used for hydroseeding and as an over-spray for straw mulch in landscaping, erosion control, and soil reclamation.
- (b) Compost made from yard trimmings, leaves, and/or grass clippings for use in landscaping, seeding of grass or other plants on roadsides and embankments, as a nutritious mulch under trees and shrubs, and in erosion control and soil reclamation.
- (c) Garden and soaker hoses containing recovered plastic or rubber.
- (d) Lawn and garden edging containing recovered plastic or rubber.

§ 247.16 Non-paper office product.

- (a) Office recycling containers and office waste receptacles.
- (b) Plastic desktop accessories.
- (c) Toner cartridges.
- (d) Binders.
- (e) Plastic trash bags.
- (f) Printer ribbons.
- (g) Plastic envelopes.

§ 247.17 Miscellaneous products.

Pallets containing recovered wood, plastic, or paperboard.

## INDEX OF DRAWINGS

### GOLDSBOROUGH CREEK SECTION 206 RESTORATION PROJECT Mason County, WA

Drawing No. E-17-1-10

<b>SHEET NUMBER</b>	<b>PLATE NUMBER</b>	<b>TITLE</b>	<b>REVISION NUMBER</b>	<b>DATE</b>
<b>GENERAL</b>				
1	G1	Cover Sheet And Vicinity Map		NOV 2000
2	G2	Drawing Index, Legend And Abbreviations		NOV 2000
3	G3	Location Map And Survey Control		NOV 2000
4	G4	Contractor's Staging Area , Right of Way and Limits of Construction		NOV 2000
<b>GEOTECHNICAL</b>				
5	GT-1	Boring and Profile Locations		NOV 2000
6	GT-2	Exploration Logs I		NOV 2000
7	GT-3	Exploration Logs II		NOV 2000
8	GT-4	Exploration Logs III		NOV 2000
9	GT-5	Exploration Logs IV		NOV 2000
10	GT-6	Exploration Logs V		NOV 2000
11	GT-7	Exploration Logs VI		NOV 2000
12	GT-8	Resistivity Profiles I		NOV 2000
13	GT-9	Resistivity Profiles II		NOV 2000
<b>CIVIL</b>				
14	C-1	Dam Demolition Plan		NOV 2000
15	C-2	Plan And Profile – Station 119+00 to 126+00		NOV 2000

<b>SHEET NUMBER</b>	<b>PLATE NUMBER</b>	<b>TITLE</b>	<b>REVISION NUMBER</b>	<b>DATE</b>
16	C-3	Plan And Profile – Station 111+50 to 119+00		NOV 2000
17	C-4	Plan And Profile – Station 106+00 to 111+50		NOV 2000
18	C-5	Cross Sections -- Weir Group 1		NOV 2000
19	C-6	Cross Sections -- Weir Group 2		NOV 2000
20	C-7	Cross Sections -- Weir Group 3		NOV 2000
21	C-8	Cross Sections -- Weir Group 4		NOV 2000
22	C-9	Cross Sections -- Weir Group 5		NOV 2000
23	C-10	Cross Sections -- Weir Group 6		NOV 2000
24	C-11	Cross Sections -- Weir Group 7		NOV 2000
25	C-12	Civil Details I		NOV 2000
26	C-13	Civil Details II		NOV 2000
27	C-14	Civil Details III		NOV 2000
28	C-15	Civil Details IV		NOV 2000
29	C-16	Civil Details V		NOV 2000
30	C-17	Civil Details VI		NOV 2000
31	C-18	Civil Details VII		NOV 2000
<b>PLANTING</b>				
32	P-1	Planting Plan - Station 119+00 to 126+00		NOV 2000
33	P-2	Planting Plan - Station 111+50 to 119+00		NOV 2000
34	P-3	Planting Plan - Station 105+60 to 111+50		NOV 2000
35	P-4	Planting Details		NOV 2000
<b>STRUCTURAL</b>				
36	S-1	Structural Notes And Design Criteria		NOV 2000
37	S-2	Typical Weir Sections And Details I		NOV 2000



<b>SHEET NUMBER</b>	<b>PLATE NUMBER</b>	<b>TITLE</b>	<b>REVISION NUMBER</b>	<b>DATE</b>
38	S-3	Typical Weir Sections And Details II		NOV 2000
39	S-4	Typical Panel Details		NOV 2000
40	S-5	Weir Plans And Sections - Weir 1.1, 1.2, 1.3, 1.4		NOV 2000
41	S-6	Weir Plans And Sections - Weir 1.5 2.1, 2.2		NOV 2000
42	S-7	Weir Plans And Sections - Weir 2.3, 2.4, 2.5		NOV 2000
43	S-8	Weir Plans And Sections - Weir 3.1, 3.2		NOV 2000
44	S-9	Weir Plans And Sections - Weir 3.3, 3.4, 3.5		NOV 2000
45	S-10	Weir Plans And Sections - Weir 4.1, 4.2, 4.3		NOV 2000
46	S-11	Weir Plans And Sections - Weir 4.4, 4.5		NOV 2000
47	S-12	Weir Plans And Sections - Weir 5.1, 5.2		NOV 2000
48	S-13	Weir Plans And Sections - Weir 5.3, 5.4, 5.5		NOV 2000
49	S-14	Weir Plans And Sections - Weir 6.1, 6.2, 6.3, 6.4		NOV 2000
50	S-15	Weir Plans And Sections - Weir 6.5, 7.1, 7.2		NOV 2000
51	S-16	Weir Plans And Sections - Weir 7.3, 7.4		NOV 2000
52	S-17	Weir Plans And Sections - Weir 7.5, 7.6		NOV 2000

#### **REFERENCE**

53	R-1	Approximate Top of Kitsap Formation		NOV 2000
54	R-2	Comparison of Aerial and Ground Surveys I		NOV 2000
55	R-3	Comparison of Aerial and Ground Surveys II		NOV 2000
56	R-4	Comparison of Aerial and Ground Surveys III		NOV 2000
57	R-5	Comparison of Aerial and Ground Surveys IV		NOV 2000

STANDARD DETAILS BOUND IN THE SPECIFICATIONS

DRAWING NUMBER	SHEET NUMBER	TITLE	DATE
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SECTION 01501 - CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS

1, 2, & 3	Civil Works Project Identification Sign	REV 07APR88
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1	Hard Hat Sign	10SEP90
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END OF SECTION

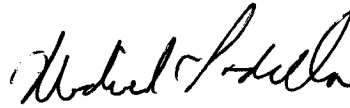
# DESIGN AUTHENTICATION

## GOLDSBOROUGH CREEK SECTION 206 RESTORATION

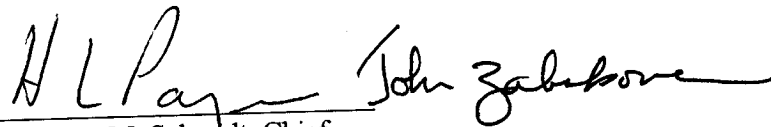
Signatures affixed below indicate the drawings and specifications included in this solicitation were prepared, reviewed and certified in accordance with Department of Army Engineer Regulation ER 1110-345-100, DESIGN POLICY FOR MILITARY CONSTRUCTION.

(Signed Drawings on File)

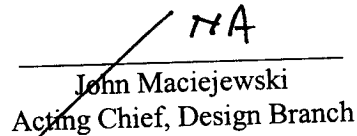
DOUGLAS G. LANTZ  
TETRA TECH, INC.



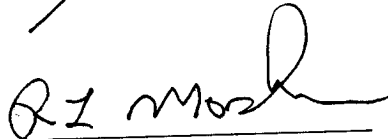
MIKE PADILLA  
COE Project Manager



Dean M. Schmidt, Chief  
Tech. Eng. & Review Section,  
Construction Branch



John Maciejewski  
Acting Chief, Design Branch



Rick Moshier, P.E.  
Chief, Engineering & Construction Division

This project was designed for the U.S. Army Corps of Engineers, Seattle District. The initials and/or signatures and registration designations of individuals appearing on these project documents are as required by ER 1110-1-8152, ENGINEERING AND DESIGN PROFESSIONAL REGISTRATION.

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# DESIGN AUTHENTICATION

## GOLDSBOROUGH CREEK SECTION 206 RESTORATION

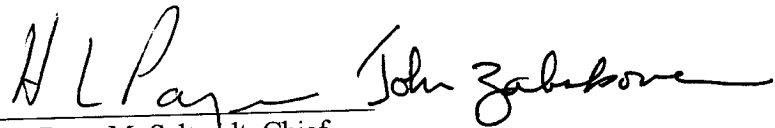
Signatures affixed below indicate the drawings and specifications included in this solicitation were prepared, reviewed and certified in accordance with Department of Army Engineer Regulation ER 1110-345-100, DESIGN POLICY FOR MILITARY CONSTRUCTION.

(Signed Drawings on File)

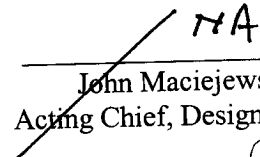
DOUGLAS G. LANTZ  
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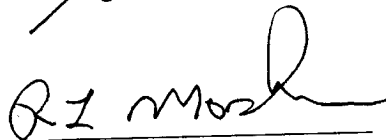


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General Decision Number WA000001

General Decision Number WA000001 Superseded General Decision No. WA990001

State: Washington

Construction Type:

DREDGING

HEAVY

HIGHWAY

County(ies):

STATEWIDE

HEAVY AND HIGHWAY AND DREDGING CONSTRUCTION PROJECTS

(Excludes D. O. E. Hanford Site in Benton and Franklin Counties)

Modification Number Publication Date

0	02/11/2000
1	03/03/2000
2	03/10/2000
3	03/31/2000
4	04/07/2000
5	04/28/2000
6	06/02/2000
7	06/23/2000
8	07/07/2000
9	07/14/2000
10	07/21/2000
11	07/28/2000
12	08/25/2000
13	09/01/2000
14	09/15/2000
15	09/22/2000
16	09/29/2000
17	10/20/2000
18	12/08/2000

COUNTY(ies):

STATEWIDE

CARP0001W 06/01/2000

Rates

Fringes

COLUMBIA RIVER AREA - ADAMS, BENTON, COLUMBIA, DOUGLAS (EAST OF THE 120TH MERIDIAN), FERRY, FRANKLIN, GRANT, OKANOGAN (EAST OF THE 120TH MERIDIAN) AND WALLA WALLA COUNTIES

CARPENTERS:

GROUP 1:	22.83	5.70
GROUP 2:	23.94	5.70
GROUP 3:	23.10	5.70
GROUP 4:	22.83	5.70
GROUP 5:	56.60	5.70
GROUP 6:	26.97	5.70

SPOKANE AREA: ASOTIN, GARFIELD, LINCOLN, PEND OREILLE, SPOKANE, STEVENS AND WHITMAN COUNTIES

CARPENTERS:

GROUP 1:	22.16	5.70
GROUP 2:	23.26	5.70
GROUP 3:	22.42	5.70
GROUP 4:	22.16	5.70
GROUP 5:	54.93	5.70
GROUP 6:	26.25	5.70

CARPENTERS CLASSIFICATIONS

GROUP 1: Carpenter; Burner-Welder; Rigger and Signaler; Insulators (all types), Acoustical, Drywall and Metal Studs, Metal Panels and Partitions; Floor Layer, Sander, Finisher and Astro Turf; Layout Carpenters; Form Builder; Rough Framers; Outside or Inside Finisher, including doors, windows, and jams; Sawfiler; Shingler (wood, composition) Solar, Fiberglass,

Aluminum or Metal; Scaffold Erecting and Dismantling; Stationary Saw-Off Bearer; Wire, Wood and Metal Lather Applicator

GROUP 2: Millwright, machine erector

GROUP 3: Piledriver - includes driving, pulling, cutting, placing collars, setting, welding, or creosote treated material, on all piling

GROUP 4: Bridge, dock and wharf carpenters

GROUP 5: Divers

GROUP 6: Divers Tender

DEPTH PAY FOR DIVERS:

Each foot over 50-100 feet \$1.00

Each foot over 100-175 feet 2.25

Each foot over 175-250 feet 5.50

#### HAZMAT PROJECTS

Anyone working on a HAZMAT job (task), where HAZMAT certification is required, shall be compensated at a premium, in addition to the classification working in as follows:

LEVEL D + \$.25 per hour - This is the lowest level of protection. No respirator is used and skin protection is minimal.

LEVEL C + \$.50 per hour - This level uses an air purifying respirator or additional protective clothing.

LEVEL B + \$.75 per hour - Uses same respirator protection as Level A. Supplied air line is provided in conjunction with a chemical "splash suit".

LEVEL A +\$1.00 per hour - This level utilizes a fully encapsulated suit with a self-contained breathing apparatus or a supplied air line.

-----  
\* CARP00030 12/01/2000

SOUTHWEST WASHINGTON: CLARK, COWLITZ, KLUCKITAT, LEWIS  
(Piledriver only), PACIFIC (South of a straight line made by extending the north boundary line of Wahkiakum County west to Willapa Bay to the Pacific Ocean), SKAMANIA AND WAHIAKUM COUNTIES and INCLUDES THE ENTIRE PENINSULA WEST OF WILLAPA BAY  
SEE ZONE DESCRIPTION FOR CITIES BASE POINTS

#### ZONE 1:

	Rates	Fringes
CARPENTERS; ACOUSTICAL	26.03	7.49
DRYWALL	26.03	7.49

#### FLOOR LAYERS & FLOOR FINISHERS

(the laying of all hardwood floors nailed and mastic set, parquet and wood-type tiles, and block floors, the sanding and finishing of floors, the preparation of old and new floors when the materials mentioned above are to be installed); INSULATORS

(fiberglass and similar irritating materials	26.18	7.49
MILLWRIGHTS	26.53	7.49
PILEDRIERS	26.53	7.49
DIVERS	61.83	7.49
DIVERS TENDERS	28.47	7.49

#### DEPTH PAY

50 TO 100 FEET \$1.00 PER FOOT OVER 50 FEET  
100 TO 150 FEET 1.50 PER FOOT OVER 100 FEET  
150 TO 200 FEET 2.00 PER FOOT OVER 150 FEET

Zone Differential (Add up Zone 1 rates):

Zone 2 - \$0.85

Zone 3 - 1.25

Zone 4 - 1.70

Zone 5 - 2.00

Zone 6 - 3.00

BASEPOINTS: ASTORIA, LONGVIEW, PORTLAND, THE DALLES,



AND VANCOUVER, (NOTE: All dispatches for Washington State Counties: Cowlitz, Wahkiakum and Pacific shall be from Longview Local #1707 and mileage shall be computed from that point.)

ZONE 1: Projects located within 30 miles of the respective city hall of the above mentioned cities

ZONE 2: Projects located more than 30 miles and less than 40 miles of the respective city of the above mentioned cities

ZONE 3: Projects located more than 40 miles and less than 50 miles of the respective city of the above mentioned cities

ZONE 4: Projects located more than 50 miles and less than 60 miles of the respective city of the above mentioned cities.

ZONE 5: Projects located more than 60 miles and less than 70 miles of the respective city of the above mentioned cities

ZONE 6: Projects located more than 70 miles of the respected city of the above mentioned cities

-----  
CARP0770D 06/01/2000

	Rates	Fringes
WESTERN WASHINGTON: CLALLAM, GRAYS HARBOR, ISLAND, JEFFERSON, KING, KITSAP, LEWIS (excludes piledrivers only), MASON, PACIFIC (North of a straight line made by extending the north boundary line of Wahkiakum County west to the Pacific Ocean), PIERCE, SAN JUAN, SKAGIT, SNOHOMISH, THURSTON AND WHATCOM		
COUNTIES		

CARPENTERS AND DRYWALL APPLICATORS	26.08	6.62
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CARPENTERS ON CREOSOTE MATERIAL	26.18	6.62
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SAWFILERS, STATIONARY POWER SAW  
OPERATORS, FLOOR FINISHER, FLOOR  
LAYER, SHINGLER, FLOOR SANDER  
OPERATOR AND OPERATORS OF OTHER

STATIONARY WOOD WORKING TOOLS	26.21	6.62
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MILLWRIGHT AND MACHINE ERECTORS	27.08	6.62
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ACOUSTICAL WORKERS	26.24	6.62
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PILEDRIIVER, DRIVING, PULLING,  
CUTTING, PLACING COLLARS,  
SETTING, WELDING OR CREOSOTE  
TREATED MATERIAL, ALL PILING

	26.28	6.62
--	-------	------

PILEDRIIVER, BRIDGE DOCK &

WHARF CARPENTERS	25.50	6.62
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DIVERS	62.97	6.62
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DIVERS TENDER	28.01	6.62
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(HOURLY ZONE PAY APPLICABLE TO ALL CLASSIFICATIONS EXCEPT  
MILLWRIGHT AND PILEDRIIVER)

Hourly Zone Pay shall be paid on jobs located outside  
of the free zone computed from the city center of the  
following listed cities:

Seattle	Olympia	Bellingham
Auburn	Bremerton	Anacortes
Renton	Shelton	Yakima
Aberdeen-Hoquiam	Tacoma	Wenatchee
Ellensburg	Everett	Port Angeles
Centralia	Mount Vernon	Sunnyside
Chelan	Pt. Townsend	

Zone Pay

0 - 25 radius miles	Free
25-35 radius miles	\$1.00/hour
35-45 radius miles	\$1.15/hour
45-55 radius miles	\$1.35/hour
Over 55 radius miles	\$1.55/hour

(HOURLY ZONE PAY - MILLWRIGHT AND PILEDRIIVER ONLY)

Hourly Zone Pay shall be computed from Seattle Union Hall, Tacoma City center, and Everett City center

Zone Pay

0 - 25 radius miles	Free
25- 45 radius miles	\$ .70/hour
Over 45 radius miles	\$1.50/hour

CENTRAL WASHINGTON: CHELAN, DOUGLAS (WEST OF THE 120TH MERIDIAN), KITTITAS, OKANOGAN (WEST OF THE 120TH MERIDIAN) AND YAKIMA COUNTIES

CARPENTERS AND DRYWALL APPLICATORS	20.57	6.62
CARPENTERS ON CREOSOTED MATERIAL	26.18	6.62
SAWFILERS, STATIONARY POWER S37 OPERATORS, FLOOR FINISHER, FLOOR LAYER, SHINGLERS, FLOOR SANDER OPERATORS	20.70	6.62
MILLWRIGHT AND MACHINE ERECTORS	27.08	6.62
PILEDRIIVER, DRIVING, PULLING, CUTTING, PLACING COLLARS, SETTING, WELDING OR CRESOTE TREATED MATERIAL, ALL PILING	26.28	6.62
PILEDRIIVER, BRIDGE DOCK AND WHARF CARPENTERS	26.08	6.62
DIVERS	64.39	6.62
DIVERS TENDER	28.65	6.62

(HOURLY ZONE PAY APPLICABLE TO ALL CLASSIFICATIONS EXCEPT MILLWRIGHT AND PILEDRIIVER)

Hourly Zone Pay shall be paid on jobs located outside of the free zone computed from the city center of the following listed cities:

Seattle	Olympia	Bellingham
Auburn	Bremerton	Anacortes
Renton	Shelton	Yakima
Aberdeen-Hoquiam	Tacoma	Wenatchee
Ellensburg	Everett	Port Angeles
Centralia	Mount Vernon	Sunnyside
Chelan	Pt. Townsend	

Zone Pay

0 - 25 radius miles	Free
25- 35 radius miles	\$1.00/hour
35- 45 radius miles	\$1.15/hour
45- 55 radius miles	\$1.35/hour
Over 55 radius miles	\$1.55/hour

(HOURLY ZONE PAY - MILLWRIGHT AND PILEDRIIVER ONLY)

Hourly Zone Pay shall be computed from Seattle Union Hall, Tacoma City center, and Everett City center

Zone Pay

0 - 25 radius miles	Free
25- 45 radius miles	\$ .70/hour
Over 45 radius miles	\$1.50/hour

ELEC0046A 06/05/2000

	Rates	Fringes
CALLAM, JEFFERSON, KING AND KITSAP COUNTIES		
ELECTRICIANS	30.50	3%+8.41
CABLE SPLICERS	33.55	3%+8.41

ELEC0048C 07/01/2000

	Rates	Fringes
CLARK, KLINKITAT AND SKAMANIA COUNTIES		
ELECTRICIANS	28.70	3%+10.00
CABLE SPLICERS	28.95	3%+10.00

ELEC0073A 07/01/2000

Rates	Fringes
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ADAMS, FERRY, LINCOLN, PEND OREILLE, SPOKANE, STEVENS, WHITMAN  
COUNTIES

ELECTRICIANS	23.22	3%+8.43
CABLE SPLICERS	23.62	3%+8.43

ELEC0076B 01/01/2000

	Rates	Fringes
GRAYS HARBOR, LEWIS, MASON, PACIFIC, PIERCE, AND THURSTON COUNTIES		
ELECTRICIANS	26.20	8.47+3%
CABLE SPLICERS	28.82	8.47+3%

ELEC0077C 02/01/2000

	Rates	Fringes
LINE CONSTRUCTION:		
CABLE SPLICERS	29.41	3.875%+6.85
LINEMEN, POLE SPRAYERS, HEAVY LINE EQUIPMENT MAN	26.52	3.875%+6.85
LINE EQUIPMENT MEN	22.86	3.875%+5.10
POWDERMEN, JACKHAMMERMEN	19.95	3.875%+5.10
GROUNDMEN	18.74	3.875%+5.10
TREE TRIMMER	20.57	3.875%+5.10%

\* ELEC0112E 12/01/2000

	Rates	Fringes
ASOTIN, BENTON, COLUMBIA, FRANKLIN, GARFIELD, KITTITAS, WALLA WALLA, YAKIMA COUNTIES		
ELECTRICIANS	27.75	3%+6.93
CABLE SPLICERS	29.14	3%+6.93

ELEC0191C 08/31/2000

	Rates	Fringes
ISLAND, SAN JUAN, SNOHOMISH, SKAGIT AND WHATCOM COUNTIES		
ELECTRICIANS	28.21	3%+7.23
CABLE SPLICERS	31.03	3%+7.23

\* ELEC0191D 12/01/2000

	Rates	Fringes
CHELAN, DOUGLAS, GRANT AND OKANOGAN COUNTIES		
ELECTRICIANS	25.66	3%+7.53
CABLE SPLICERS	28.23	3%+7.53

\* ELEC0970A 12/01/2000

	Rates	Fringes
COWLITZ AND WAHIAKUM COUNTIES		
ELECTRICIANS	26.80	7.50+3%
CABLE SPLICERS	29.48	7.50+3%

ENGI0302E 06/01/2000

	Rates	Fringes
CHELAN (WEST OF THE 120TH MERIDIAN), CLALLAM, DOUGLAS (WEST OF THE 120TH MERIDIAN), GRAYS HARBOR, ISLAND, JEFFERSON, KING, KITSAP, KITTITAS, MASON, OKANOGAN (WEST OF THE 120TH MERIDIAN), SAN JUAN, SKAGIT, SNOHOMISH, WHATCOM AND YAKIMA (WEST OF THE 120TH MERIDIAN) COUNTIES PROJECTS		

CATEGORY A PROJECTS (excludes Category B projects, as show  
below)

POWER EQUIPMENT OPERATORS:

Zone 1 (0-25 radius miles):

GROUP 1AAA	28.56	7.88
GROUP 1AA	28.06	7.88
GROUP 1A	27.56	7.88
GROUP 1	27.06	7.88

GROUP 2	26.62	7.88
GROUP 3	26.26	7.88
GROUP 4	24.16	7.88

Zone 2 (26-45 radius miles) - Add \$ .70 to Zone 1 rates

Zone 3 (Over 45 radius miles) - Add \$1.00 to Zone 1 rates

BASEPOINTS: Bellingham, Mount Vernon, Kent, Port Angeles, Port Townsend, Aberdeen, Shelton, Bremerton, Wenatchee, Yakima, Seattle, Everett

#### POWER EQUIPMENT OPERATORS CLASSIFICATIONS

GROUP 1AAA - Cranes-over 300 tons or 300 ft. of boom (including job with attachments)

GROUP 1AA - Cranes - 200 tons to 300 tons or 250 ft. of boom (including jib and attachments); Tower crane over 175 ft. in height, base to boom

GROUP 1A - Cranes - 100 tons thru 199 tons or 150' of boom (including jib with attachments); Crane-overhead, bridge type, 100 tons and over; Tower crane up to 175 ft. in height base to boom; Loader-overhead, 8 yards and over; Shovel, excavator, backhoes-6 yards and over with attachments

GROUP 1 - Cableway; Cranes-45 tons thru 99 tons, under 150 ft. of boom (including jib with attachments); Crane-overhead, bridge type, 45 tons thru 99 tons; Shovel, excavator, backhoes over 3 yards and under 6 yards; Hard tail end dump articulating off-road equipment 45 yards and over; Loader-overhead, 6 yards to, but not including 8 yards; Mucking machine, mole, tunnel, drill and/or shield; Quad 9, HD 41, d-10; Remote control operator on rubber tired earth moving equipment; Rollagon; Scrapers-self-propelled-45 yards and over; Slipform pavers; Transporters, all track or truck type

GROUP 2 - Barrier machine (zipper); Barch Plant opeator-concrete; Bump cutter; Cranes-20 tons thru 44 tons with attachments; Cranes-overheads, bridge type-20 tons through 44 tons; Chipper; Concrete pump-truck mount with boom attachment; Crusher; Deck Engineer/Deck Winches (power); Drilling machine; Excavator, shovel backhoe-3 yards and under; Finishing machine Bidwell, Gamaco and similar equipment; Guardrail punch; Horizontal/directional drill operator; Loaders, overhead under 6 yds.; Loaders-plant feed; Locomotives-all; Mechanics-all; Mixers-asphalt plant; Motor patrol graders-finishing; Pildriver (other than crane mount); Roto-mill, roto-grinder; Screedman, Spreader, Topside Operator-Blaw Knox, Cedar Rapids, Jaeger, Caterpillar, Barbar Green; Scraper-self-propelled, hard tail end dump, articulating off-road equipment-under 45 yards; Subgrader trimmer; Tractors, backhoes-over 75 hp; Transfer material service machine-shuttle buggy, blow knox, roadtec; Truck crane oiler/driver-100 tons and over; Truck mount portable conveyor; Yo Yo Pay Dozer

GROUP 3 - Conveyors; Cranes-thru 19 tons with attachments; Cranes-A-frame over 10 tons; Drill oilers-auger type, truck or crane mount; Dozers D9 and under; Forklifts-3000 lbs and over with attachments; horizontal/directional drill locator; Outside hoists-(elevators and manlifts), air tuggers, strao tower bucket elevators; Hydralifts/boom truck-over 10 tons; Loader-elevating type belt; Motor Patrol Grader-non-finishing; Plant Oiler-asphalt, crusher; Pumps-concrete; Roller, plant mix or multi-lift materials; Saws-concrete; Scrapers-concrete and carryall; Service engineers-equipment; Trenching machines; Truck crane oiler/driver-under 100 tons Tractors, backhoes-under 75 hp

GROUP 4 - Assistant Engineer; Bobcat; Brooms; Compressor; Concrete Finish Machine-laser screed; Cranes-A-frame-10 tons and under; Elevator and manlift-permanent and shaft type; Forklifts-under 3000 lbs. with attachments; Gradechecker, stakehop; Hydralifts, boom trucks-10 tons and under; Oil distributors, blower distribution and mulch seeding

operator; Pavement breaker; Post Hole Digger-mechanical; Power Plant; Pumps-water; Rigger and Bellman; Roller-other than plant mix; Wheel Tractors, farmall type; Shot crete/gunite equipment operator

CATEGORY B PROJECTS - 95% of the basic hourly rate for each group plus full fringe benefits applicable to Category A projects shall apply to the following projects. Reduced rates may be paid on the following:

1. Projects involving work on structures such as buildings and structures whose total value is less than \$1.5 million excluding mechanical, electrical, and utility portions of the contract.
2. Projects of less than \$1 million where no building is involved. Surfacing and paving included, but utilities excluded.
3. Marine projects (docks, wharfs, etc.) less than \$150,000.

**WORK PERFORMED ON HYDRAULIC DREDGES:**

Total Project Cost \$300,000 and over

GROUP 1	25.80	7.88
GROUP 2	25.90	7.88
GROUP 3	26.24	7.88
GROUP 4	26.29	7.88
GROUP 5	27.68	7.88
GROUP 6	25.80	7.88

GROUP 1: Assistant Mate (Deckhand)

GROUP 2: Oiler

GROUP 3: Assistant Engineer (Electric, Diesel, Steam or Booster Pump); Mates and Boatmen

GROUP 4: Craneman, Engineer Welder

GROUP 5: Leverman, Hydraulic

GROUP 6: Maintenance

Total Project cost under \$300,000

GROUP 1	24.51	7.88
GROUP 2	24.61	7.88
GROUP 3	24.93	7.88
GROUP 4	24.98	7.88
GROUP 5	26.30	7.88
GROUP 6	24.51	7.88

GROUP 1: Assistant Mate (Deckhand)

GROUP 2: Oiler

GROUP 3: Assistant Engineer (Electric, Diesel, Steam, or Booster Pump); Mates and Boatmen

GROUP 4: Craneman, Engineer Welder

GROUP 5: Leverman, Hydraulic

GROUP 6: Maintenance

HEAVY WAGE RATES (CATEGORY A) APPLIES TO CLAM SHELL DREDGE, HOE AND DIPPER, SHOVELS AND SHOVEL ATTACHMENTS, CRANES AND BULLDOZERS.

HANDLING OF HAZAARDOUS WASTE MATERIALS: Personnel in all craft classifications subject to working inside a federally designated hazardous perimeter shall be eligible for compensation in accordance with the following group schedule relative to the level of hazardous waste as outlined in the specific hazardous waste project site safety plan.

H-1 Base wage rate when on a hazardous waste site when not outfitted with protective clothing

H-2 Class "C" Suit - Base wage rate plus \$.25 per hour.

H-3 Class "B" Suit - Base wage rate plus \$.50 per hour.

H-4 Class "A" Suit - Base wage rate plus \$.75 per hour.

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ENGI0370C 06/01/2000

	Rates	Fringes
ADAMS, ASOTIN, BENTON, CHELAN (EAST OF THE 120TH MERIDIAN),		
COLUMBIA, DOUGLAS (EAST OF THE 120TH MERIDIAN), FERRY, FRANKLIN,		
GARFIELD, GRANT, LINCOLN, OKANOGAN (EAST OF THE 120TH MERIDIAN),		

PEND OREILLE, SPOKANE, STEVENS, WALLA WALLA, WHITMAN AND YAKIMA  
(EAST OF THE 120TH MERIDIAN) COUNTIES

ZONE 1:

POWER EQUIPMENT OPERATORS:

GROUP 1A	20.69	5.77
GROUP 1	21.24	5.77
GROUP 2	21.56	5.77
GROUP 3	22.17	5.77
GROUP 4	22.33	5.77
GROUP 5	22.49	5.77
GROUP 6	22.77	5.77
GROUP 7	23.04	5.77
GROUP 8	24.14	5.77

ZONE DIFFERENTIAL (Add to Zone 1  
rate): Zone 2 - \$2.00

Zone 1: Within 45 mile radius of Spokane, Moses Lake, Pasco,  
Washington; Lewiston, Idaho

Zone 2: Outside 45 mile radius of Spokane, Moses Lake, Pasco,  
Washington; Lewiston, Idaho

POWER EQUIPMENT OPERATORS CLASSIFICATIONS

GROUP 1A: Boat Operator; Crush Feeder; Oiler; Steam Cleaner

GROUP 1: Bit Grinders; Bolt Threading Machine; Compressors  
(under 2000 CFM, gas, diesel, or electric power); Deck Hand;  
Drillers Helper (Assist driller in making drill rod connections,  
service drill engine and air compressor, repair drill rig and  
drill tools, drive drill support truck to and on the job site,  
remove drill cuttings from around bore hole and inspect drill rig  
while in operation); Fireman & Heater Tender; Grade Checker;  
Hydro-seeder, Mulcher, Nozzlemaster; Oiler Driver, & Cable Tender,  
Mucking Machine; Pumpman; Rollers, all types on subgrade,  
including seal and chip coatings (farm type, Case, John Deere &  
similar, or Compacting Vibrator), except when pulled by Dozer  
with operable blade; Welding Machine

GROUP 2: A-frame Truck (single drum); Assistant Refrigeration  
Plant (under 1000 ton); Assistant Plant Operator, Fireman or  
Pugmiller (asphalt); Bagley or Stationary Scraper; Belt Finishing  
Machine; Blower Operator (cement); Cement Hog; Compressor (2000  
CFM or over, 2 or more, gas diesel or electric power); Concrete  
Saw (multiple cut); Distributor Leverman; Ditch Witch or similar;  
Elevator Hoisting Materials; Dope Pots (power agitated); Fork  
Lift or Lumber Stacker, hydra-lift & similar; Gin Trucks  
(pipeline); Hoist, single drum; Loaders (bucket elevators and  
conveyors); Longitudinal Float; Mixer (portable-concrete);  
Pavement Breaker, Hydra-Hammer & similar; Power Broom; Railroad  
Ballast Regulation Operator (self-propelled); Railroad Power  
Tamp Operator (self-propelled); Railroad Tamp Jack  
Operator (self-propelled); Spray Curing Machine (concrete);  
Spreader Box (self-propelled); Straddle Buggy (Ross & similar  
on construction job only); Tractor (Farm type R/T with  
attachment, except Backhoe); Tugger Operator

GROUP 3: A-frame Truck (2 or more drums); Assistant  
Refrigeration Plant & Chiller Operator (over 1000 ton);  
Backfillers (Cleveland & similar); Batch Plant & Wet Mix  
Operator, single unit (concrete); Belt-Crete Conveyors with  
power pack or similar; Belt Loader (Kocal or similar); Bending  
Machine; Bob Cat; Boring Machine (earth); Boring Machine (rock  
under 8" bit) (Quarry Master, Joy or similar); Bump Cutter  
(Wayne, Saginaw or similar); Canal Lining Machine (concrete);  
Chipper (without crane); Cleaning & Doping Machine (pipeline);  
Deck Engineer; Elevating Belt-type Loader (Euclid, Barber Green &  
similar); Elevating Grader-type Loader (Dumort, Adams or similar);  
Generator Plant Engineers (diesel or electric); Gunnite  
Combination Mixer & Compressor; Locomotive Engineer; Mixermobile;  
Mucking Machine; Posthole Auger or Punch; Pump (grout or jet);

Soil Stabilizer (P & H or similar); Spreader Machine; Tractor (to D-6 or equivalent) and Traxcavator; Traverse Finish Machine; Turnhead Operator

GROUP 4: Concrete Pumps (squeeze-crete, flow-crete, pump-crete, Whitman & similar); Curb Extruder (asphalt or concrete); Drills (churn, core, calyx or diamond) (operate drilling machine, drive or transport drill rig to and on job site and weld well casing); Equipment Serviceman; Greaser & Oiler; Hoist (2 or more drums or Tower Hoist); Loaders (overhead & front-end, under 4 yds. R/T); Refrigeration Plant Engineer (under 1000 ton); Rubber-tired Skidders (R/T with or without attachments); Surface Heater & Plant Machine; Trenching Machines (under 7 ft. depth capacity); Turnhead (with re-screening); Vacuum Drill (reverse circulation drill under 8" bit)

GROUP 5: Backhoe (under 45,000 gw); Backhoe & Hoe Ram (under 3/4 yd.); Carrydeck & Boom Truck (under 25 tons); Cranes (25 tons & under), all attachments including clamshell, dragline; Derricks & Stifflegs (under 65 tons); Drilling Equipment (8" bit & over) (Robbins, reverse circulation & similar) (operates drilling machine, drive or transport drill rig to and on job site and weld well casing); Hoe Ram; Piledriving Engineers; Paving (dual drum); Railroad Track Liner Operatr (self-propelled); Refrigeration Plant Engineer (1000 tons & over); Signalman (Whirleys, Highline Hammerheads or similar)

GROUP 6: Asphalt Plant Operator; Automatic Subgrader (Ditches & Trimmers) (Autograde, ABC, R. A. Hansen & similar on grade wire); Backhoe (45,000 gw and over to 110,000 gw); Backhoes & Hoe Ram (3/4 yd. to 3 yd.); Batch Plant (over 4 units); Batch & Wet Mix Operator (multiple units, 2 & incl. 4); Blade Operator (motor patrol & attachments, Athey & Huber); Boom Cats (side); Cable Controller (dispatcher); Clamshell Operator (under 3 yds.); Compactor (self-propelled with blade); Concrete Pump Boom Truck; Concrete Slip Form Paver; Cranes (over 25 tons, to and including 45 tons), all attachments including clamshell, dragline; Crusher, Grizzle & Screening Plant Operator; Dozer, 834 R/T & similar; Draglines (under 3 yds.); Drill Doctor; H. D. Mechanic; H. D. Welder; Loader Operator (front-end & overhead, 4 yds. incl. 8 yds.); Multiple Dozer Units with single blade; Paving Machine (asphalt and concrete); Quad-Track or similar equipment; Rollerman (finishing asphalt pavement); Roto Mill (pavement grinder); Scrapers, all, rubber-tired; Screed Operator; Shovel (under 3 yds.); Tractors (D-6 & equivalent & over); Trenching Machines (7 ft. depth & over); Tug Boat Operator Vactor guzzler, super sucker

GROUP 7: Backhoe (over 110,000 gw); Backhoes & Hoe Ram (3 yds & over); Blade (finish & bluetop) Automatic, CMI, ABC, Finish Athey & Huber & similar when used as automatic; Cableway Operators; Concrete Cleaning/Decontamination machine operator; Cranes (over 45 tons to but not including 85 tons), all attachments including clamshell and dragline; Derricks & Stiffleys (65 tons & over); Elevating Belt (Holland type); Heavy equipment robotics operator; Loader (360 degrees revolving Koehring Scooper or similar); Loaders (overhead & front-end, over 8 yds. to 10 yds.); Rubber-tired Scrapers (multiple engine with three or more scrapers); Shovels (3 yds. & over); Whirleys & Hammerheads, ALL

GROUP 8: Cranes (85 tons and over, and all climbing, overhead, rail and tower), all attachments including clamshell, dragline; Loaders (overhead and front-end, 10 yards and over); Helicopter Pilot

BOOM PAY: (All Cranes, Including Tower)

180' to 250' \$ .30 over scale

Over 250' \$ .60 over scale

NOTE: In computing the length of the boom on Tower Cranes, they shall be measured from the base of the Tower to the point

of the boom  
 HAZMAT: Anyone working on HAZMAT jobs, working with supplied air  
 shall receive \$1.00 an hour above classification.

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 ENGI0370G 06/01/2000

	Rates	Fringes
ADAMS, ASOTIN, BENTON, CHELAN (EAST OF THE 120TH MERIDIAN), COLUMBIA, DOUGLAS (EAST OF THE 120TH MERIDIAN), FERRY, FRANKLIN, GARFIELD, GRANT, LINCOLN, OKANOGAN (EAST OF THE 120TH MERIDIAN), PEND OREILLE, SPOKANE, STEVENS, WALLA WALLA, WHITMAN AND YAKIMA (EAST OF THE 120TH MERIDIAN) COUNTIES WORK PERFORMED ON HYDRAULIC DREDGES		

GROUP 1:	24.23	5.77
GROUP 2:	24.60	5.77
GROUP 3:	24.63	5.77
GROUP 4:	25.02	5.77
GROUP 5:	24.13	5.77

GROUP 1: Assistant Mate (Deckhand) and Oiler  
 GROUP 2: Assistant Engineer (Electric, Diesel, Steam, or  
 Booster Pump); Mates and Boatmen  
 GROUP 3: Engineer Welder  
 GROUP 4: Leverman, Hydraulic  
 GROUP 5: Maintenance

HEAVY WAGE RATES APPLIES TO CLAM SHELL DREDGE, HOE AND DIPPER,  
 SHOVELS AND SHOVEL ATTACHMENTS, CRANES AND BULLDOZERS.

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 ENGI0612A 06/01/2000

	Rates	Fringes
LEWIS, PIERCE, PACIFIC (THAT PORTION WHICH LIES NORTH OF A PARALLEL LINE EXTENDED WEST FROM THE NORTHERN BOUNDARY OF WAHKAUKUM COUNTY TO THE SEA IN THE STATE OF WASHINGTON) AND THURSTON COUNTIES		

PROJECTS:

CATEGORY A PROJECTS (excludes Category B projects, as shown  
 below)

POWER EQUIPMENT OPERATORS:

ZONE 1 (0-25 radius miles):

GROUP 1AAA	28.56	7.88
GROUP 1AA	28.06	7.88
GROUP 1A	27.56	7.88
GROUP 1	27.06	7.88
GROUP 2	26.62	7.88
GROUP 3	26.26	7.88
GROUP 4	24.16	7.88

ZONE 2 (26-45 radius miles) - Add \$.70 to Zone 1 rates

ZONE 3 (Over 45 radius miles) - Add \$1.00 to Zone 1 rates

BASEPOINTS: Tacoma, Olympia, and Centralia

POWER EQUIPMENT OPERATORS CLASSIFICATIONS

GROUP 1AAA - Cranes-300 tons, or 300 ft of boom (including jib  
 with attachments)

GROUP 1AA - Cranes 200 tons to 300 tons, or 250 ft of boom  
 (including jib with attachments); Tower crane over 175 ft in  
 height, base to boom

GROUP 1A - Crane 100 tons thru 199 tons, or 150 of boom  
 (including jib with attachments); Crane-overhead, bridge type,  
 100 tons and over; Shovel, excavator, backhoes-6 yds and over  
 with attachments

GROUP 1 - Cableways; Cranes-45 tons thru 99 tons, under 150 ft  
 of boom (including jib with attachments); Crane-overhead, bridge  
 type - 45 tons thru 99 tons; Excavator, shovel, backhoes over 3  
 yards and under 6 yards; hard tail end dump articulating off-road  
 equipment 45 yards and over; loader-overhead 6 yards to, but not  
 including 8 yards; Mucking machine, mole, tunnel, drill and/or  
 shield; Quad 9, HD 41, D-10; Remote control operator on rubber



tired earth moving equipment; Rollagon; Scrapers-self-propelled-45 yds and over; Slipform pavers; Transporters-all track or truck type

GROUP 2 - Barrier machine (zipper); Batch Plant Operator-concrete; Bump cutter; Cranes-20 tons through 44 tons with attachments; Crane-overhead, bridge type-20 tons thru 44 tons; Chipper, Concrete Pump-truck mounted with boom attachment; Crushers; Deck Engineer/Deck Winches (power); Drilling machine; Excavator, shovel, backhoe-3yards and under; Finishing machine, Bidwell, Gamaco and similar equipment; Guardrail punch; Horizontal/directional drill operator; Loaders, overhead under 6 yds.; Loaders, plant feed; Locomotive-all; Mechanics-all; Mixers, asphalt plant; Motor patrol graders-finishing; Piledriver (other than crane mount); Roto-mill, roto grinder; screedman, spreader, topside operator-Blaw Knox, Cedar Rapids, Jaeger, Caterpillar, Barbar Green; Scraper-self propelled, hard tail end dump, articulating off-road equipment under 45 yds.; Subgrader trimmer; Tractors, backhoes over 75 hp.; Transfer material service machine-shuttle buggy, Blaw Knox-Roadtec; Truck Crane Oiler/driver-100 tons and over, Truck Mount Portable Conveyor; Yo Yo Pay dozer.

GROUP 3 - Conveyors; Cranes-thru 19 tons with attachments; Cranes-A-frame over 10 tons; Drill Oilers-Auger type, truck or crane mount; Dozers-D-9 and under; Forklifts-3000 lbs. and over with attachments; Horizontal/directional drill locator; Outside hoists-(elevators and manlifts), air tuggers, strato tower bucket elevators; Hydralifts/Boom Trucks-over 10 tons; Loaders-elevating type, belt; Motor patrol grader-nonfinishing; Plant Oiler-Asphalt, Crusher; Pumps, Concrete; Roller, plant mix or multi-lift materials; Saws-concrete; Scrapers-Concrete and Carry all; Trenching machines; Truck Crane Oiler/Driver-under 100 tons; Tractor, backhoe-under 75 hp

GROUP 4 - Assistant Engineer; Bobcat; Brooms; Compressor; Concrete Finish Machine-laser screed; Crane-A-Frame, 10 tons and under; Elevator and manlift-permanent and shaft type; Forklifts-under 3000 lbs. with attachments; Gradechecker, stakehop; Hydralifts, boom trucks, 10 tons and under; Oil distributors, blower distribution and mulch seeding operator; Pavement breaker; Posthole Digger-mechanical; Power plant; Pumps-Water; Roller-other than Plant Mix; Wheel Tractors, Farmall type; Shotcrete/Gunite Equipment Operator

CATEGORY B PROJECTS - 95% of the basic hourly rate for each group plus full fringe benefits applicable to Category A projects shall apply to the following projects: Reduced rates may be paid on the following:

1. Projects involving work on structures such as buildings and structures whose total value is less than \$1.5 million excluding mechanical, electrical, and utility portions of the contract.
2. Projects of less than \$1 million where no building is involved. Surfacing and paving included, but utilities excluded.
3. Marine projects (docks, wharfs, etc.) less than \$150,000

**WORK PERFORMED ON HYDRAULIC DREDGES:**

Total Project cost \$300,000 and over

GROUP 1	25.80	7.88
GROUP 2	25.90	7.88
GROUP 3	26.24	7.88
GROUP 4	26.29	7.88
GROUP 5	27.68	7.88
GROUP 6	25.80	7.88

GROUP 1: Assistant Mate (Deckhand)

GROUP 2: Oiler

GROUP 3: Assistant Engineer (Electric, Diesel, Steam or Booster Pump); Mates and Boatmen

GROUP 4: Craneman, Engineer Welder  
 GROUP 5: Leverman, Hydraulic  
 GROUP 6: Maintenance  
 Total Project Cost under \$300,000

GROUP 1	24.51	7.88
GROUP 2	24.61	7.88
GROUP 3	24.93	7.88
GROUP 4	24.98	7.88
GROUP 5	26.30	7.88
GROUP 6	24.51	7.88

GROUP 1: Assistant Mate (Deckhand)  
 GROUP 2: Oiler  
 GROUP 3: Assistant Engineer (Electric, Diesel, Steam or  
 Booster Pump); Mates and Boatmen  
 GROUP 4: Craneman, Engineer Welder  
 GROUP 5: Leverman, Hydraulic  
 GROUP 6: Maintenance

HEAVY WAGE RATES APPLIES TO CLAM SHEEL DREDGE, HOE AND DIPPER,  
 SHOVELS AND SHOVEL ATTACHMENTS, CRANES AND BULLDOZERS

HANDLING OF HAZARDOUS WASTE MATERIALS

H-1 - When not outfitted with protective clothing of  
 level D equipment - Base wage rate  
 H-2 - Class "C" Suit - Base wage rate + \$.25 per hour  
 H-3 - Class "B" Suit - Base wage rate + \$.50 per hour  
 H-4 - Class "A" Suit - Base wage rate + \$.75 per hour

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 ENGI0701D 01/01/2000

Rates Fringes  
 CLARK, COWLITZ, KICKITAT, PACIFIC (SOUTH), SKAMANIA, AND  
 WAHIAKUM COUNTIES

POWER EQUIPMENT OPERATORS (See Footnote A)

ZONE 1:

GROUP 1	26.91	8.20
GROUP 2	26.00	8.20
GROUP 3	25.30	8.20
GROUP 4	24.83	8.20
GROUP 5	24.27	8.20
GROUP 6	22.10	8.20

Zone Differential (add to Zone 1 rates):

Zone 2 - \$1.50

Zone 3 - 3.00

For the following metropolitan counties: MULTNOMAH; CLACKAMAS;  
 MARION; WASHINGTON; YAMHILL; AND COLUMBIA; CLARK AND COWLITZ  
 COUNTY, WASHINGTON WITH MODIFICATIONS AS INDICATED:

All jobs or projects located in Multnomah, Clackamas and Marion  
 counties, West of the western boundary of Mt. Hood National  
 Forest and West of Mile Post 30 ON Interstate 84 and West of Mile  
 Post 30 on State Highway 26 and West of Mile Post 30 on Highway  
 22 and all jobs located in Yamhill County, Washington County and  
 Columbia County and all jobs or projects located in Clark and  
 Cowlitz Counties, Washington except that portion of Cowlitz  
 County in the Mt. St. Helens "Blast Zone" shall receive Zone I  
 pay for all classifications.

All jobs or projects located in the area outside the identified  
 boundary above, but less than 50 miles from the Portland City  
 Hall shall receive Zone II pay for all classifications.

All jobs or projects located more than 50 miles from the Portland  
 City Hall, but outside the identified border above, shall receive  
 Zone III pay for all classifications.

For the following cities: ALBANY; COOS, BAY; EUGENE; GRANTS PASS;  
 KLAMATH FALLS; MEDFORD; ROSEBURG

All jobs or projects located within 30 miles of the respective  
 city hall of the above mentioned cities shall receive Zone I pay  
 for all classifications.

All jobs of projects located more than 30 miles and less than 50 miles from the respective city hall of the above mentioned cities shall receive Zone II pay for all classifications.  
All jobs of projects located more than 50 miles from the respective city hall of the above mentioned cities shall receive Zone III pay for all classifications.

#### POWER EQUIPMENT OPERATORS CLASSIFICATIONS

GROUP 1: CONCRETE: Batch Plant and/or Wet Mix Operator, three units or more; CRANE: Crane Operator, over 200 tons; Whirley Operator 90 tons and over; Helicopter Operators, when used in erecting work; Floating Crane, 150 tons but less than 250 tons; Lattice Boom Crane - 200 tons and over, Boom 201' through 280'; FLOATING EQUIPMENT: Floating Crane, 250 tons and over

GROUP 2: ASPHALT: Asphalt Plant Operator (any type); Roto-mill, pavement profiler, operator, six foot lateral cut and over; BLADE: Auto Grader or "Trimmer" Operator (Grade Checker required); BULLDOZERS: Tandem bulldozer operator, quad-nine and similar type; D-11; Tandem Bulldozer Operator, Quad-nine and similar type; CONCRETE: Batch Plant and/or Wet Mix Operator, one and two drum; Automatic Concrete Slip Form Paver Operator; Concrete Canal Line Operator; Concrete Profiler, Diamond Head; CRANE: Cableway Operator, 25 tons and over; Crane Operator, over 40 tons and including 100 tons; Crane Operator, over 100 tons and including 200; Tower Crane Operator, over 80 tons and including 150 tons; Whirley Operator - under 90 tons; Lattice Boom Crane - 90 through 199 tons, Boom = 150' through 200'; CRUSHER: Crusher Plant Operator; FLOATING EQUIPMENT: Floating Clamshell, etc. Operator, 3cu. yds. and over; Floating Crane (derrick barge) Operator, 30 tons but less than 80 tons; Floating Crane (derrick barge) Operator, 80 ton but less than 150 ton; LOADERS: Loader Operator, 6 cu. yds. but less than 12 cu. yds.; Loader Operator, 12 cu. yds. and over; REMOTE CONTROL: Remote controlled earth-moving equipment (no one operator shall operate more than two pieces of earth-moving equipment at one time); RUBBER-TIRED SCRAPERS: Rubber-tired Scraper Operator, with tandem scrapers, multi-engine; SHOVEL, DRAGLINE, CLAMSHELL, BACKHOE, SKOOPER, OPERATOR: Shovel, etc., 3 cu. yds., but less than 5 cu. yds.; Shovel, etc., 5 cu. yds. and over; TRENCH MACHINE: Wheel Excavator, under 750 cu. yds. per hour (Grade Oiler required); Canal Trimmer (Grade Oiler required); Wheel Excavator, over 750 cu. yds. per hour (two Operators and at least one Grade Oiler required); Band Wagon (in conjunction with wheel excavator); UNDERWATER EQUIPMENT: Underwater Equipment Operator, remote or otherwise, when used in construction work.

GROUP 3: CRANES: Lattice Boom Crane - 50 through 89 tons; FORKLIFT: Rock Hound Operator; LOADERS: Loader Operator, 4 cu. yds. but less than 6 cu. yds.; Rubber-tired RUBBER-TIRED SCRAPERS: Scraper Operator, with tandem scrapers; Self-loading, paddle wheel, auger type, finish and/or 2 or more units

GROUP 4: ASPHALT: Screed Operator; Asphalt Paver Operator (Screed man required); Diesel-Electric engineer, Plant; Roto-Mill, pavement profiler, operator, under six foot lateral cut; BLADE: Blade Operator, externally controlled by electronic, mechanical hydraulic means; Blade operator, multi-engine; BULLDOZERS: Bulldozer Operator; Drill Cat Operator; Side-boom Operator; Bulldozer Operator, twin engine (TC 12 and similar type, D-10); Cable-Plow Operator (any type); CLEARING: Log Skidders; Chippers; Incinerator; Stump Splitter (loader mounted or similar type); Compactor Operator, with blade; Compactor Operator, multi-engine; CONCRETE: Mixer Mobile Operator; Screed Operator; Concrete Cooling Machine Operator; Concrete Paving Road Mixer; Concrete Breaker; Reinforced Tank Banding Machine (K-17 or similar types); CRANE: Chicago boom and similar types; Lift Slab Machine Operator; Boom type lifting device, 5 ton capacity or

less; Cherry Picker or similar type crane-hoist, 5 ton capacity or less; Crane Operator, under 25 ton (except for rough terrain), Hoist Operator, two drum; Hoist Operator, three or more drums; Derrick Operator, under 100 ton; Hoist Operator, stiff leg, guy derrick or similar type, 50 ton and over; Cableway Operator, up to twenty-five ton; Crane Operator, over twenty-five ton and including forty ton; Bridge Crane Operator; Locomotive, Gantry, Overhead; Lattice Boom Crane - 25 through 49 tons; CRUSHER: Generator Operator; Diesel-Electric Engineer; Grizzly Operator; DRILLING: Drill Doctor; Boring Machine Operator; Driller-Percussion, Diamond, Core, Cable, Rotary and similar type; Cat Drill (John Henry); FLOATING EQUIPMENT: Diesel-electric Engineer; Jack Operator, elevating barges, Barge Operator, self-unloading; Piledriver Operator (not crane type) (Deckhand required); Floating Clamshell, etc. Operator, under 3 cu. yds. (Fireman or Diesel-Electric Engineer required); Floating Crane (derrick barge) Operator, less than 30 tons; GENERATORS: Generator Operator; Diesel-electric Engineer required); GUARDRAIL EQUIPMENT: Guardrail Punch Operator (all types); Guardrail auger Operator (all types); Combination Guardrail machines, i.e. punch, auger, etc.; HEATING PLANT: Surface Heater and Planer Operator; HYDRAULIC HOES: Hydraulic Backhoe Operator, Track Type 3/8 cu. yd. takes shovel Classif. rate); LOADERS: Belt Loaders, Kolman and Ko Cal types; Loaders Operator, front end and overhead, 2-1/2 cu. yds. and under 4 cu. yds.; Elevating Loader Operator, Athey and asimilar types; Elevating Grader Operator, operated by Tractor Operator, sierra, Euclid or similar types; PILEDRIVERS: Hammer Operator; Piledriver Operator (not crane type); Pipe Cleaning Machine Operator; Pipe Doping Machine Operator; PIPELINE, SEWER WATER: Pipe Bending Machine Operator; Pipe Wrapping Machine Operator; Boring Machine Operator; Back Filling Machine Operator; REPAIRMEN, HEAVY DUTY: Diesel-Electric Engineer (Plant or Floating); Bolt Treading Machine Operator; Drill Doctor (bit grinder); H. D. Mechanic; H. D. Welder; Machine Tool Operator; Combination H. D. Mechanic-Welder, when dispatched and/or when required to do both; Welder-Certified, when dispatched and/or required; RUBBER-TIRED SCRAPERS: Rubber-tired Scraper Operator, single engine, single scraper; Self-loading, paddle wheel, auger type under 15 cu. yds.; rubber-tired Scraper Operator, twin engine; Rubber-tired Scraper Operator, with push-pull attachments; Self-loading, paddle wheel, auger type 15 cu. yds. and over, single engine; SHOVEL, DRAGLINE, CLAMSHELL, BACKHOE, SKOOPER OPERATOR: Diesel-Electric Engineer; Stationary Drag Scraper Operator; Shovel, Dragline, Clamshell, Hoe, etc., Operator, under 1 cu. yd.; Shovel, etc., 1 cu. yd. and less than 3 cu. yds.; Grade-all Operator, under 1 cu. yd.; Grade-all 1 cu. yd. and over; SURFACING (BASE) MATERIALS: Blade Mounted Spreaders, Ulrich and similar types; TRACTOR-RUBBER TIRED: Tractor Operator, rubber-tired, over 50 H. P. Flywheel; Tractor Operator, with boom attachment; Rubber-tired Dozers and Pushers (Michigan, Cat, Hough type); TRENCHING MACHINE: Trenching Machine Operator, maximum digging capacity over 3 ft. depth (Grade Oiler required); Back Filling Machine Operator; TUNNEL: Mucking Machine Operator; Shield Operator; Boring Machine Operator

GROUP 5: ASPHALT: Extrusion Machine Operator; Roller Operator (any asphalt mix); Asphalt Burner and reconditioner Operator (any type), 84; roto-mill, Pavement Profiler, ground man.; COMPRESSORS: Compressor Operator any power), over 1,250 cu. ft. total capacity; COMPACTORS: Compactor Operator, including vibratory; Wagner Pactor Operator or similar type (without blade); CONCRETE: Combination mixer and Compressor Operator, gunite work; Concrete Batch Plant Quality Control Operator; Beltcrete Operator; Pumpcrete Operator (any type) Pavement

Grinder and/or Grooving Machine Operator (riding type); Cement Pump Operator, Fuller-Kenyon and similar; Concrete Pump Operator; Grouting Machine Operator; Concrete Mixer Operator, single drum, under five bag capacity and over; Cast place pipe laying machine; Maginnis Internal Full Slab Vibrator Operator; Concrete Finishing machine Operator, Clary, Johnson, Bidwell, Burgess bridge deck or similar type; Curb Machine Operator, mechanical Berm, Curb and/or Curb and Gutter; Concrete Joint Machine Operator; Concrete Planer Operator; Tower Mobile Operator; Power Jumbo Operator setting slip forms; Concrete Paving Machine Operator; Concrete Finishing Machine Operator; Concrete Spreader Operator; CRANE: Helicopter Hoist Operator; Hoist Operator, single drum; Elevator Operator; A-frame Truck Operator, Double drum; Boom Truck Operator Hydraulic Boom Truck, Pittman; DRILLING: Churn Drill and earth Boring Machine Operator; FLOATING EQUIPMENT: Fireman; FORKLIFT: Lull Hi-Lift Operator or similar type; Fork Lift, over 5 ton; HYDRAULIC HOES: Hydraulic Backhoe Operator, wheel type 3/8 cu. yd and under with or without front end attachment 2-1/2 cu. yds. and under (Ford, John Deere, Case, Type); LOADERS: Loaders, rubber-tired type, 2-1/2 cu. yds. and under; Elevating Grader Operator, Tractor Towed requiring Operator or Grader; OILERS: Service Oiler (Greaser); PIPELINE, SEWER WATER: Hydra Hammer or similar types; Pavement Breaker Operator; RAILROAD EQUIPMENT: Locomotive Operator, under 40 tons; Ballast Regulator Operator; Ballast Tamper Multi-Purpose Operator; Track Liner Operator; Tie Spacer Operator; Shuttle Car Operator; Locomotive Operator, 40 tons and over; SURFACING (BASE) MATERIAL: Roller Operator, Oiling, C.T.B.; Rock Spreaders self-propelled; Pulva-mixer or similar types; Chip Spreading Machine Operator Lime Spreading Operator, construction job site; SWEEPERS: Sweeper Operator (Wayne Tractor Operator, rubber-tired, 50 H.P. Flywheel and under; TRENCHING: Trench Machine Operator, maximum digging capacity 3 ft. depth

GROUP 6: ASPHALT: Plant Oiler; Plant Fireman; Pugmill Operator (any type); Truck mounted asphalt spreader, with screed; BLADE: Blade Operator, pulled type; COMPRESSORS: Compressor Operator (any power), under 1,250 cu. ft. total capacity; CONCRETE: Plant Oiler, Assistant Conveyor Operator; Conveyor Operator; Mixer Box Operator (C.T.B., dry batch, etc.); Cement Hog Operator; Concrete Saw Operator; Concrete Curing Machine Operator (riding type); Wire Mat or Brooming Machine Operator; CRANE: Oiler; Truck Crane Oiler-Driver, 25 tons capacity or over; Fireman, all equipment; A-frame Truck Operator, single drum; Tugger or Coffin Type Hoist Operator; CRUSHER: Crusher Oiler; Crusher Feeder; DRILLING: Drill Tender; Auger Oiler; FLOATING EQUIPMENT: Deckhand; Boatman; FORKLIFT: Self-propelled Scaffolding Operator, construction job site (excluding working platform); Fork Lift or Lumber Stacker Operator, construction job site; GUARDRAIL EQUIPMENT: Oiler, auger Oiler; Oiler, combination guardrail machines; Guardrail Punch Oiler; HEATING PLANT: Temporary Heating Plant Operator; LOADERS: Bucket Elevator Loader Operator, Barber-Greene and similar types; Bobcat, Skid Steer - Under 1 yd; OILERS: Oiler; Guardrail Punch Oiler; Truck Crane Oiler-Driver, 25 ton or over; Auger Oiler; Grade Oiler, required to check grade; Grade Checker; Tar Pot Fireman; PIPELINE SEWER WATER: Tar Pot Fireman (power agitated); Hydraulic Pipe Press Operator; PUMPS: Pump Operator, under 4"; Pump Operator (any power), 4" and over; Hydrostatic Pump Operator; RAILROAD EQUIPMENT: Brakeman; Oiler; Switchman; Motorman; Ballast Jack Tamper Operator; REPAIRMAN HEAVY DUTY: Parts Man (Tool Room); SHOVEL, DRAGLINE, CLAMSHELL, BACKHOE, SKOOPER OPERATORS: Oiler; Grade Oiler (required to check grade); Grade Checker; Fireman; Signaller; Bell Boy, phones, etc., Operator; Helicopter Radioman (ground); SURFACING (BASE) MATERIAL: Roller Operator, grading of base rock (not asphalt);

Tamping Machine Operator, mechanical, self-propelled;  
 Hydrographic Seeder Machine Operator, staw, pulp or seed;  
 SWEEPERS: Broom Operator, self-propelled, construction job site;  
 TRENCHING: Oiler; Grade Oiler (required to check grade); TUNNEL:  
 Conveyor Operator (any type); air Filtration Equipment Operator;  
 Motormen (dinkey); Oiler; WELDING MACHINES: Welding Machine  
 Operator

FOOTNOTE A: HANDLING OF HAZARDOUS WASTE MATERIALS: Personnel in all craft classifications subject to working inside a federally designated hazardous perimeter shall be eligible for compensation in accordance with the following group schedule relative to the level of hazardous waste as outline in the specific hazardous waste project site safety plan.

- H-1 Base wage rate when on a hazardous waste site when not outfitted with protective clothing.  
 H-2 Class "C" Suit - Basic hourly wage rate plus \$1.00 per hour, fringes plus \$0.15.  
 H-3 Class "B" Suit - Basic hourly wage rate plus \$1.50 per hour, fringes plus \$0.15.  
 H-4 Class "A" Suit - Basic hourly wage rate plus \$2.00 per hour, fringes plus \$0.15.

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ENG10701E 06/01/2000		
	Rates	Fringes
CLARK, COWLITZ, KLUCKITAT, PACIFIC (SOUTH), SKAMANIA, AND WAHIAKUM COUNTIES		
DREDGING:		
ZONE A		
LEVERMAN, HYDRAULIC	30.65	7.75
LEVERMAN, DIPPER, FLOATING CLAMSHELL	30.65	7.75
ASSISTANT ENGINEER	28.60	7.75
TENDERMAN	27.66	7.75
ASSISTANT MATE	25.16	7.75
ZONE B		
LEVERMAN, HYDRAULIC	32.65	7.75
LEVERMAN, DIPPER, FLOATING CLAMSHELL	32.65	7.75
ASSISTANT ENGINEER	30.60	7.75
TENDERMAN	29.66	7.75
ASSISTANT MATE	27.16	7.75
ZONE C		
LEVERMAN, HYDRAULIC	33.65	7.75
LEVERMAN, DIPPER, FLOATING CLAMSHELL	33.65	7.75
ASSISTANT ENGINEER	31.60	7.75
TENDERMAN	30.66	7.75
ASSISTANT MATE	28.16	7.75
ZONE DESCRIPTION FOR DREDGING:		
ZONE A - All jobs or projects located within 30 road miles of Portland City Hall.		
ZONE B - Over 30-50 road miles from Portland City Hall.		
ZONE C - Over 50 road miles from Portland City Hall.		
*All jobs or projects shall be computed from the city hall by the shortest route to the geographical center of the project.		
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IRON0014F 07/01/2000		
	Rates	Fringes
ADAMS, ASOTIN, BENTON, COLUMBIA, DOUGLAS, FERRY, FRANKLIN, GARFIELD, GRANT, LINCOLN, OKANOGAN, PEND ORIELLE, SPOKANE, STEVENS, WALLA WALLA AND WHITMAN COUNTIES		
IRONWORKERS	24.22	10.65
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IRON0029I 07/01/2000

	Rates	Fringes
CLARK, CLALLAM, CHELAN, COWLITZ, GRAYS HARBOR, ISLAND, JEFFERSON, KING, KITTITAS, KLICKITAT, KITSAP, LEWIS, MASON, PACIFIC, PIERCE, SKAGIT, SKAMANIA, SNOHOMISH, THURSTON, WAHKAIAKUM, WHATCOM AND YAKIMA COUNTIES		
IRONWORKERS	25.22	10.65

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LAB00001D 06/01/2000

	Rates	Fringes
CHELAN, DOUGLAS (WEST OF THE 120TH MERIDIAN), KITTITAS AND YAKIMA COUNTIES		
LABORERS:		
ZONE 1:		
GROUP 1	13.89	5.66
GROUP 2	16.21	5.66
GROUP 3	17.93	5.66
GROUP 4	18.41	5.66
GROUP 5	18.77	5.66

ZONE DIFFERENTIAL (ADD TO ZONE 1 RATES):

ZONE 2 - \$ .70

ZONE 3 - \$1.00

BASE POINTS: CHELAN, SUNNYSIDE, WENATCHEE, AND YAKIMA

ZONE 1 - Projects within 25 radius miles of the respective city hall

ZONE 2 - More than 25 but less than 45 radius miles from the respective city hall

ZONE 3 - More than 45 radius miles from the respective city hall  
CALLAM, GRAYS HARBOR, ISLAND, JEFFERSON, KING, KITSAP, LEWIS, MASON, PACIFIC (NORTH OF STRAIGHT LINE MADE BY EXTENDING THE NORTH BOUNDARY WAHKAIAKUM COUNTY WEST TO THE PACIFIC OCEAN), PIERCE, SAN JUAN, SKAGIT, SNOHOMISH, THURSTON AND WHATCOM COUNTIES

LABORERS:

ZONE 1:		
GROUP 1	15.92	5.66
GROUP 2	18.24	5.66
GROUP 3	22.92	5.66
GROUP 4	23.40	5.66
GROUP 5	23.76	5.66

ZONE DIFFERENTIAL (ADD TO ZONE 1 RATES):

ZONE 2 - \$ .70

ZONE 3 - \$1.00

BASE POINTS: BELLINGHAM, MT. VERNON, EVERETT, SEATTLE, KENT, TACOMA, OLYMPIA, CENTRALIA, ABERDEEN, SHELTON, PT. TOWNSEND, PT. ANGELES, AND BREMERTON

ZONE 1 - Projects within 25 radius miles of the respective city hall

ZONE 2 - More than 25 but less than 45 radius miles from the respective city hall

ZONE 3 - More than 45 radius miles from the respective city hall  
LABORERS CLASSIFICATIONS

GROUP 1: Landscaping and Planting; Watchman; Window Washer/Cleaner (detail clean-up, such as but not limited to cleaning floors, ceilings, walls, windows, etc., prior to final acceptance by the owner)

GROUP 2: Batch Weighman; Crusher Feeder; Fence Laborer; Flagman; Pilot Car

GROUP 3: General Laborer; Air, Gas, or Electric Vibrating Screed; Asbestos Abatement Laborer; Ballast Regulator Machine; Brush Cutter; Brush Hog Feeder; Burner; Carpenter Tender; Cement Finisher Tender; Change House or Dry Shack; Chipping Gun (under 30 lbs.); Choker Setter; Chuck Tender; Clean-up Laborer; Concrete

Form Stripper; Curing Laborer; Demolition (wrecking and moving including charred material); Ditch Digger; Dump Person; Fine Graders; Firewatch; Form Setter; Gabian Basket Builders; Grout Machine Tender; Grinders; Guardrail Erector; Hazardous Waste Worker (Level C); Maintenance Person; Material Yard Person; Pot Tender; Rip Rap Person; Riggers; Scale Person; Sloper Sprayer; Signal Person; Stock Piler; Stake Hopper; Toolroom Man (at job site); Topper-Tailer; Track Laborer; Truck Spotter; Vinyl Seamer

GROUP 4: Cement Dumper-Paving; Chipping Gun (over 30 lbs.); Clary Power Spreader; Concrete Dumper/Chute Operator; Concrete Saw Operator; Drill Operator (hydraulic, diamond, airtrac); Faller and Bucker Chain Saw; Grade Checker and Transit Person; Groutmen (pressure) including post tension beams; Hazardous Waste Worker (Level B); High Scaler; Jackhammer; Laserbeam Operator; Manhole Builder-Mudman; Mortarman and Hodcarrier; Nozzleman (concrete pump, green cutter when using combination of high pressure air and water on concrete and rock, sandblast, guniting, shotcrete, water blaster, vacuum blaster); Pavement Breaker; Pipe Layer and Caulker; Pipe Pot Tender; Pipe Reliner (not insert type); Pipe Wrapper; Power Jacks; Railroad Spike Puller-Power; Raker-Asphalt; Rivet Buster; Rodder; Sloper (over 20'); Spreader (concrete); Tamper and Similar electric, air and gas operated tool; Timber Person-sewer (lagger shorer and cribber); Track Liner Power; Tugger Operator; Vibrator; Well Point Laborer

GROUP 5: Caisson Worker; Miner; Powderman; Re-Timberman; Hazardous Waste Worker (Level A).

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LAB00238E 06/01/2000

ADAMS, ASOTIN, BENTON, COLUMBIA, DOUGLAS (EAST OF THE 120TH MERIDIAN), FERRY, FRANKLIN, GARFIELD, GRANT, LINCOLN, OKANOGAN, PEND OREILLE, STEVENS, SPOKANE, WALLA WALLA AND WHITMAN COUNTIES

**LABORERS:**

**ZONE 1:**

	Rates	Fringes
GROUP 1	17.40	4.76
GROUP 2	19.50	4.76
GROUP 3	19.77	4.76
GROUP 4	20.04	4.76
GROUP 5	20.32	4.76
GROUP 6	21.69	4.76

Zone Differential (Add to Zone 1 rate): \$2.00

BASE POINTS: Spokane, Moses Lake, Pasco, Lewiston

Zone 1: 0-45 radius miles from the main post office.

Zone 2: 45 radius miles and over from the main post office.

**LABORERS CLASSIFICATIONS**

GROUP 1: Flagman; Landscape Laborer; Scaleman; Traffic Control Maintenance Laborer (to include erection and maintenance of barricades, signs and relief of flagperson); Window Washer/Cleaner (detail cleanup, such as, but not limited to cleaning floors, ceilings, walls, windows, etc. prior to final acceptance by the owner)

GROUP 2: Asbestos Abatement Worker; Brush Hog Feeder; Carpenter Tender; Cement Handler; Clean-up Laborer; Concrete Crewman (to include stripping of forms, hand operating jacks on slip form construction, application of concrete curing compounds, pumpcrete machine, signaling, handling the nozzle of squeezecrete or similar machine, 6 inches and smaller); Confined Space Attendant; Concrete Signalman; Crusher Feeder; Demolition (to include clean-up, burning, loading, wrecking and salvage of all material); Dumpman; Fence Erector; Firewatch; Form Cleaning Machine Feeder; Stacker; General Laborer; Grout Machine Header Tender; Guard Rail (to include guard rails, guide and reference posts, sign posts, and



right-of-way markers); Hazardous Waste Worker, Level D (no respirator is used and skin protection is minimal); Miner, Class "A" (to include all bull gang, concrete crewman, dumpman and pumpcrete crewman, including distributing pipe, assembly & dismantle, and nipper); Nipper; Riprap Man; Sandblast Tailhoseman; Scaffold Erector (wood or steel); Stake Jumper; Structural Mover (to include separating foundation, preparation, cribbing, shoring, jacking and unloading of structures); Tailhoseman (water nozzle); Timber Bucker and Faller (by hand); Track Laborer (RR); Truck Loader; Well-Point Man; All Other Work Classifications Not Specially Listed Shall Be Classified As General Laborer

GROUP 3: Asphalt Raker; Asphalt Roller, walking; Cement Finisher Tender; Concrete Saw, walking; Demolition Torch; Dope Pot Firemen, non-mechanical; Driller Tender (when required to move and position machine); Form Setter, Paving; Grade Checker using level; Hazardous Waste Worker, Level C (uses a chemical "splash suit" and air purifying respirator); Jackhammer Operator; Miner, Class "B" (to include brakeman, finisher, vibrator, form setter); Nozzleman (to include squeeze and flo-crete nozzle); Nozzleman, water, air or steam; Pavement Breaker (under 90 lbs.); Pipelayer, corrugated metal culvert; Pipelayer, multi-plate; Pot Tender; Power Buggy Operator; Power Tool Operator, gas, electric, pneumatic; Railroad Equipment, power driven, except dual mobile power spiker or puller; Railroad Power Spiker or Puller, dual mobile; Rodder and Spreader; Tamper (to include operation of Barco, Essex and similar tampers); Trencher, Shawnee; Tugger Operator; Wagon Drills; Water Pipe Liner; Wheelbarrow (power driven)

GROUP 4: Air and Hydraulic Track Drill; Brush Machine (to include horizontal construction joint cleanup brush machine, power propelled); Caisson Worker, free air; Chain Saw Operator and Faller; Concrete Stack (to include laborers when laborers working on free standing concrete stacks for smoke or fume control above 40 feet high); Guniting (to include operation of machine and nozzle); Hazardous Waste Worker, Level B (uses same respirator protection as Level A. A supplied air line is provided in conjunction with a chemical "splash suit"); High Scaler; Laser Beam Operator (to include grade checker and elevation control); Miner, Class C (to include miner, nozzleman for concrete, laser beam operator and rigger on tunnels); Monitor Operator (air track or similar mounting); Mortar Mixer; Nozzleman (to include jet blasting nozzleman, over 1,200 lbs., jet blast machine power propelled, sandblast nozzle); Pavement Breaker (90 lbs. and over); Pipelayer (to include working topman, caulker, collarman, jointer, mortarman, rigger, jacker, shorer, valve or meter installer); Pipewrapper; Plasterer Tender; Vibrators (all)

GROUP 5 - Drills with Dual Masts; Hazardous Waste Worker, Level A (utilizes a fully encapsulated suit with a self-contained breathing apparatus or a supplied air line); Miner Class "D", (to include raise and shaft miner, laser beam operator on raises and shafts)

GROUP 6 - Powderman

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 LAB00238G 06/01/2000

	Rates	Fringes
COUNTIES EAST OF THE 120TH MERIDIAN: ADAMS, ASOTIN, BENTON, COLUMBIA, DOUGLAS, FERRY, FRANKLIN, GARFIELD, GRANT, LINCOLN, OKANOGAN, PEND OREILLE, STEVENS, SPOKANE, WALLA WALLA, WHITMAN		
HOD CARRIERS	20.79	4.76

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LAB00335A 06/01/2000

	Rates	Fringes
CLARK, COWLITZ, KLIKITAT, PACIFIC (SOUTH OF A STRAIGHT LINE MADE		

BY EXTENDING THE NORTH BOUNDARY LINE OF WAHKIAKUM COUNTY WEST TO THE PACIFIC OCEAN), SKAMANIA AND WAHKIAKUM COUNTIES

ZONE 1:

LABORERS:

GROUP 1	21.70	6.61
GROUP 2	22.19	6.61
GROUP 3	22.56	6.61
GROUP 4	22.87	6.61
GROUP 5	19.60	6.61
GROUP 6	17.59	6.61
GROUP 7	14.96	6.61

Zone Differential (Add to Zone 1 rates):

Zone 2 \$	0.65
Zone 3 -	1.15
Zone 4 -	1.70
Zone 5 -	2.75

BASE POINTS: GOLDENDALE, LONGVIEW, AND VANCOUVER

ZONE 1: Projects within 30 miles of the respective city all.

ZONE 2: More than 30 miles but less than 40 miles from the respective city hall.

ZONE 3: More than 40 miles but less than 50 miles from the respective city hall.

ZONE 4: More than 50 miles but less than 80 miles from the respective city hall.

ZONE 5: More than 80 miles from the respective city hall.

LABORERS CLASSIFICATIONS

GROUP 1: Asphalt Plant Laborers; Asphalt Spreaders; Batch Weighman; Broomers; Brush Burners and Cutters; Car and Truck Loaders; Carpenter Tender; Change-House Man or Dry Shack Man; Choker Setter; Clean-up Laborers; Curing, Concrete; Demolition, Wrecking and Moving Laborers; Dumpers, road oiling crew; Dumpmen (for grading crew); Elevator Feeders; Guard Rail, Median Rail Reference Post, Guide Post, Right of Way Marker; Fine Graders; Fire Watch; Form Strippers (not swinging stages); General Laborers; Hazardous Waste Worker; Leverman or Aggregate Spreader (Flaherty and similar types); Loading Spotters; Material Yard Man (including electrical); Pittsburgh Chipper Operator or Similar Types; Railroad Track Laborers; Ribbon Setters (including steel forms); Rip Rap Man (hand placed); Road Pump Tender; Sewer Labor; Signalman; Skipman; Slopers; Spraymen; Stake Chaser; Stockpiler; Tie Back Shoring; Timber Faller and Bucker (hand labor); Toolroom Man (at job site); Tunnel Bullgang (above ground); Weight-Man-Crusher (aggregate when used)

GROUP 2: Applicator (including pot power tender for same), applying protective material by hand or nozzle on utility lines or storage tanks on project; Brush Cutters (power saw); Burners; Choker Splicer; Clary Power Spreader and similar types; Clean-up Nozzleman-Green Cutter (concrete, rock, etc.); Concrete Power Buggyman; Concrete Laborer; Crusher Feeder; Demolition and Wrecking Charred Materials; Guniting Nozzleman Tender; Guniting or Sand Blasting Pot Tender; Handlers or Mixers of all Materials of an irritating nature (including cement and lime); Tool Operators (includes but not limited to: Dry Pack Machine; Jackhammer; Chipping Guns; Paving Breakers); Pipe Doping and Wrapping; Post Hole Digger, air, gas or electric; Vibrating Screed; Tampers; Sand Blasting (Wet); Stake-Setter; Tunnel-Muckers, Brakemen, Concrete Crew, Bullgang (underground)

GROUP 3: Asbestos Removal; Bit Grinder; Drill Doctor; Drill Operators, air tracks, cat drills, wagon drills, rubber-mounted drills, and other similar types including at crusher plants; Guniting Nozzleman; High Scalars, Strippers and Drillers (covers work in swinging stages, chairs or belts, under extreme conditions unusual to normal drilling, blasting, barring-down, or sloping and stripping); Manhole Builder; Powdermen; Concrete Saw

Operator; Pwdermen; Power Saw Operators (Bucking and Falling); Pumpcrete Nozzlemen; Sand Blasting (Dry); Sewer Timberman; Track Liners, Anchor Machines, Ballast Regulators, Multiple Tampers, Power Jacks, Tugger Operator; Tunnel-Chuck Tenders, Nippers and Timbermen; Vibrator; Water Blaster

GROUP 4: Asphalt Raker; Concrete Saw Operator (walls); Concrete Nozzelman; Grade Checker; Pipelayer; Laser Beam (pipelaying)-applicable when employee assigned to move, set up, align; Laser Beam; Tunnel Miners; Motorman-Dinky Locomotive-Tunnel; Powderman-Tunnel; Shield Operator-Tunnel

GROUP 5: Traffic Flaggers

GROUP 6: Fence Builders

GROUP 7: Landscaping or Planting Laborers

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PAIN0005B	06/01/1998	
	Rates	Fringes
STATEWIDE EXCEPT CLARK, COWLITZ, KICKITAT, PACIFIC (SOUTH), SKAMANIA, AND WAHIAKUM COUNTIES		
STRIPERS	19. 25	5. 44
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PAIN0005D	03/01/2000	
	Rates	Fringes
CLALLAM, GRAYS HARBOR, ISLAND, JEFFERSON, KING, KITSAP, LEWIS, MASON, PIERCE, SKAGIT, SNOHOMISH, THURSTON AND WHATCOM COUNTIES		
PAINTERS	22. 94	3. 73
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PAIN0005G	07/01/2000	
	Rates	Fringes
ADAMS, ASOTIN; BENTON AND FRANKLIN (EXCEPT HANFORD SITE); CHELAN, COLUMBIA, DOUGLAS, FERRY, GARFIELD, GRANT, KITTITAS, LINCOLN, OKANOGAN, PEND OREILLE, SPOKANE, STEVENS, WALLA WALLA, WHITMAN AND YAKIMA COUNTIES		
PAINTERS*:		
Brush, Roller, Striping,		
Steam-cleaning and Spray	19. 00	3. 67
Application of Cold Tar		
Products, Epoxies, Polyure		
thanes, Acids, Radiation		
Resistant Material, Water and		
Sandblasting, Bridges, Towers,		
Tanks, Stacks, Steeples	20. 00	3. 67
TV Radio, Electrical Transmission		
Towers	20. 75	3. 67
Lead Abatement, Asbestos		
Abatement	20. 00	3. 67
*\$. 70 shall be paid over and above the basic wage rates listed for work on swing stages and high work of over 30 feet.		
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PAIN0055C	11/01/1999	
	Rates	Fringes
CLARK, COWLITZ, KICKITAT, PACIFIC, SKAMANIA, AND WAHIAKUM COUNTIES		
PAINTERS:		
Brush & Roller	17. 10	3. 48
Spray and Sandblasting	17. 70	3. 48
High work - All work		
60 ft. or higher	17. 60	3. 48
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PAIN0055L	06/01/2000	
	Rates	Fringes
CLARK, COWLITZ, KICKITAT, SKAMANIA and WAHIAKUM COUNTIES		
PAINTERS:		
HIGHWAY AND PARKING LOT		
STRIPER	21. 88	4. 76

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PLAS0072E 06/01/1999		
	Rates	Fringes
ADAMS, ASOTIN, BENTON, CHELAN, COLUMBIA, DOUGLAS, FERRY, FRANKLIN, GARFIELD, GRANT, KITTITAS, LINCOLN, OKANOGAN, PEND OREILLE, SPOKANE, STEVENS, WALLA WALLA, WHITMAN, AND YAKIMA COUNTIES		
ZONE 1:		
CEMENT MASONS	21.57	5.24
Zone Differential (Add to Zone 1 rate): Zone 2 - \$2.00		
BASE POINTS: Spokane, Pasco, Moses Lake, Lewiston		
Zone 1: 0 - 45 radius miles from the main post office		
Zone 2: Over 45 radius miles from the main post office		
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PLAS0528A 08/31/2000		
	Rates	Fringes
CLALLAM, GRAYS HARBOR, ISLAND, JEFFERSON, KING, KITSAP, LEWIS, MASON, PACIFIC (NORTH), PIERCE, SAN JUAN, SKAGIT, SNOHOMISH, THURSTON, AND WHATCOM COUNTIES		
CEMENT MASON	25.16	8.49
COMPOSITION, COLOR MASTIC, TROWEL MACHINE, GRINDER, POWER TOOLS, GUNNITE NOZZLE		
	25.41	8.49
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PLAS0555B 06/01/2000		
	Rates	Fringes
CLARK, COWLITZ, KLIKITAT, PACIFIC (SOUTH), SKAMANIA, AND WAHIAKUM COUNTIES		
ZONE 1:		
CEMENT MASONS	22.88	8.15
COMPOSITION WORKERS AND POWER MACHINERY OPERATORS	23.22	8.15
CEMENT MASONS ON SUSPENDED, SWINGING AND/OR HANGING SCAFFOLD	23.22	8.15
CEMENT MASONS DOING BOTH COMPOSITION/POWER MACHINERY AND SUSPENDED/HANGING SCAFFOLD	23.64	8.15
Zone Differential (Add To Zone 1 Rates):		
Zone 2 - \$0.65		
Zone 3 - 1.15		
Zone 4 - 1.70		
Zone 5 - 2.75		
BASE POINTS: BEND, CORVALLIS, EUGENE, LONGVIEW, MEDFORD, PORTLAND, SALEM, THE DALLES, VANCOUVER		
ZONE 1: Projects within 30 miles of the respective city hall		
ZONE 2: More than 30 miles but less than 40 miles from the respective city hall.		
ZONE 3: More than 40 miles but less than 50 miles from the respective city hall.		
ZONE 4: More than 50 miles but less than 80 miles from the respective city hall.		
ZONE 5: More than 80 miles from the respective city hall		
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PLUM0032B 01/01/2000		
	Rates	Fringes
CLALLAM, KING AND JEFFERSON COUNTIES		
PLUMBERS AND PIPEFITTERS	30.83	10.08
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PLUM0032D 06/01/1999		
	Rates	Fringes
CHELAN, KITTITAS (NORTHERN TIP), DOUGLAS (NORTH), AND OKANOGAN		

(NORTH) COUNTIES

PLUMBERS AND PIPEFITTERS	23. 47	8. 67
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PLUMD044C 12/01/1999

	Rates	Fringes
ADAMS (NORTHERN PART), ASOTIN (CLARKSTON ONLY), FERRY (EASTERN PART), LINCOLN (EASTERN PART), PEND ORIELLE, STEVENS, SPOKANE, AND WHITMAN COUNTIES		
PLUMBERS AND PIPEFITTERS	28. 16	7. 89

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PLUMD082A 06/01/2000

	Rates	Fringes
CLARK (NORTHERN TIP INCLUDING WOODLAND), COWLITZ, GRAYS HARBOR, LEWIS, MASON (EXCLUDING NE SECTION), PACIFIC, PIERCE SKAMANIA, THURSTON AND WAHIAKUM COUNTIES		
PLUMBERS AND PIPEFITTERS	23. 40	14. 42

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PLUMD265C 06/01/1999

	Rates	Fringes
ISLAND, SKAGIT, SNOHOMISH AND SAN JUAN COUNTIES		
PLUMBERS AND PIPEFITTERS	28. 37	9. 54
WHATCOM COUNTY		
PLUMBERS AND STEAMFITTERS		
Plumbing projects over \$3,000,000	27. 40	9. 54
Plumbing projects \$3,000,000 and under	28. 37	9. 04

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PLUMD290K 10/01/2000

	Rates	Fringes
CLARK (ALL EXCLUDING NORTHERN TIP INCLUDING CITY OF WOODLAND)		
PLUMBERS AND PIPEFITTERS	30. 15	10. 50

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PLUMD598E 06/01/2000

	Rates	Fringes
ADAMS (SOUTHERN PART), ASOTIN (EXCLUDING THE CITY OF CLARKSTON), BENTON, COLUMBIA, DOUGLAS (EASTERN HALF), FERRY (WESTERN PART), FRANKLIN, GARFIELD, GRANT, KITTITAS (ALL BUT NORTHERN TIP), KLIKITAT, LINCOLN (WESTERN PART), OKANOGAN (EASTERN), WALLA WALLA AND YAKIMA COUNTIES		
PLUMBERS	28. 35	11. 05

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PLUMD631A 06/01/2000

	Rates	Fringes
MASON (NE SECTION), AND KITSAP COUNTIES		
PLUMBERS/PIPEFITTERS:		
All new construction, additions, and remodeling of commercial building projects such as: cocktail lounges and taverns, professional buildings, medical clinics, retail stores, hotels and motels, restaurants and fast food types, gasoline service stations, and car washes where the plumbing and mechanical cost of the project is less than \$100,000	14. 55	7. 98
All other work where the plumbing and mechanical cost of the project is \$100,000 and over	23. 95	13. 11

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TEAMD037C 06/01/2000

Rates                      Fringes

CLARK, COWLITZ, KLIKITAT, PACIFIC (South of a straight line made by extending the north boundary line of Wahkiakum County west to the Pacific Ocean), SKAMANIA, AND WAHIAKUM COUNTIES

**TRUCK DRIVERS**

**ZONE 1:**

GROUP 1	23.13	7.80
GROUP 2	23.25	7.80
GROUP 3	23.38	7.80
GROUP 4	23.64	7.80
GROUP 5	23.86	7.80
GROUP 6	24.02	7.80
GROUP 7	24.22	7.80

Zone Differential (Add to Zone 1 Rates):

Zone 2 - \$0.65

Zone 3 - 1.15

Zone 4 - 1.70

Zone 5 - 2.75

**BASE POINTS: ASTORIA, THE DALLES, LONGVIEW AND VANCOUVER**

**ZONE 1:** Projects within 30 miles of the respective city hall.

**ZONE 2:** More than 30 miles but less than 40 miles from the respective city hall.

**ZONE 3:** More than 40 miles but less than 50 miles from the respective city hall.

**ZONE 4:** More than 50 miles but less than 80 miles from the respective city hall.

**ZONE 5:** More than 80 miles from the respective city hall.

**TRUCK DRIVERS CLASSIFICATIONS**

**GROUP 1:** A Frame or Hydra lift truck w/load bearing surface; Articulated dump truck; Battery Rebuilders; Bus or Manhaul Driver; Concrete Buggies (power operated); Concrete pump truck; Dump Trucks, side, end and bottom dumps, including Semi Trucks and Trains or combinations thereof: up to and including 10 cu. yds.; Lift Jitneys, Fork Lifts (all sizes in loading, unloading and transporting material on job site); Loader and/or Leverman on Concrete Dry Batch Plant (manually operated); Pilot Car; Pickup truck; Solo Flat Bed and misc. Body Trucks, 0-10 tons; Truck Tender; Truck Mechanic Tender; Water Wagons (rated capacity) up to 3,000 gallons; Transit Mix and Wet or Dry Mix - 5 cu. yds. and under; Lubrication Man, Fuel Truck Driver, Tireman, Wash Rack, Steam Cleaner or combinations; Team Driver; Slurry Truck Driver or Leverman

**GROUP 2:** Boom truck/hydra lift or retracting crane; Challenger; Dumpsters or similar equipment all sizes; Dump Trucks/articulated dumps 6 cu to 10 cu.; Flaherty Spreader Driver or Leverman; Lowbed Equipment, Flat Bed Semi-trailer or doubles transporting equipment or wet or dry materials; Lumber Carrier, Driver-Straddle Carrier (used in loading, unloading and transporting of materials on job site); Oil Distributor Driver or Leverman; Transit mix and wet or dry mix trucks: over 5 cu. yds. and including 7 cu. yds.; Vacuum trucks; Water truck/Wagons (rated capacity) over 3,000 to 5,000 gallons

**GROUP 3:** Ammonia nitrate distributor driver; Dump trucks, side, end and bottom dumps, including Semi Trucks and Trains or combinations thereof: over 10 cu. yds. and including 30 cu. yds. includes Articulated dump trucks; Selfpropelled street sweeper; Transit mix and wet or dry mix truck: over 7 cu yds. and including 11 cu yds.; Truck Mechanic Welder Body Repairman; Utility and cleanup truck; Water Wagons (rated capacity) over 5,000 to 10,000 gallons

**GROUP 4:** Asphalt burner; Dump Trucks, side, end and bottom dumps, including Semi-Trucks and Trains or combinations thereof: over 30 cu. yds. and including 50 cu. yds. includes articulated dump trucks; Fire guard; Transit Mix and Wet or Dry Mix Trucks,

over 11 cu. yds. and including 15 cu. yds.; Water Wagon (rated capacity) over 10,000 gallons to 15,000 gallons

GROUP 5: Dump Trucks, side, end and bottom dumps, including Semi Trucks and Trains or combinations thereof: over 50 cu. yds. and including 60 cu. yds. includes articulated dump trucks

GROUP 6: Bulk cement spreader w/o auger; Dry prebatch concrete mix trucks; Dump trucks, side, end and bottom dumps, including Semi Trucks and Trains of combinations thereof: over 60 cu. yds. and including 80 cu. yds., and includes articulated dump trucks; Skid truck

GROUP 7: Dump Trucks, side, end and bottom dumps, including Semi Trucks and Trains or combinations thereof: over 80 cu. yds. and including 100 cu. yds., includes articulated dump trucks; Industrial lift truck (mechanical tailgate)

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TEAMD174A 06/01/1999

CLALLAM, GRAYS HARBOR, ISLAND, JEFFERSON, KING, KITSAP, LEWIS, MASON, PACIFIC (North of a straight line made by extending the north boundary line of Wahkiakum County west to the Pacific Ocean), PIERCE, SAN JUAN, SKAGIT, SNOHOMISH, THURSTON AND WHATCOM COUNTIES

TRUCK DRIVERS;

	Rates	Fringes
GROUP 1:	23.05	8.21
GROUP 2:	22.47	8.21
GROUP 3:	20.43	8.21
GROUP 4:	16.68	8.21
GROUP 5:	22.22	8.21

TRUCK DRIVERS CLASSIFICATIONS

GROUP 1 - "A-frame or Hydralift" trucks and Boom trucks or similar equipment when "A" frame or "Hydralift" and Boom truck or similar equipment is used; Buggymobile; Bulk Cement Tanker; Dumpsters and similar equipment, Tournorockers, Tournowagon, Tournotrailer, Cat DW series, Terra Cobra, Le Tourneau, Westinghouse, Athye Wagon, Euclid Two and Four-Wheeled power tractor with trailer and similar top-loaded equipment transporting material: Dump Trucks, side, end and bottom dump, including semi-trucks and trains or combinations thereof with 16 yards to 30 yards capacity: Over 30 yards \$.15 per hour additional for each 10 yard increment; Explosive Truck (field mix) and similar equipment; Hyster Operators (handling bulk loose aggregates); Lowbed and Heavy Duty Trailer; Road Oil Distributor Driver; Spreader, Flaherty Transit mix used exclusively in heavy construction; Water Wagon and Tank Truck-3,000 gallons and over capacity

GROUP 2 - Bulllifts, or similar equipment used in loading or unloading trucks, transporting materials on job site; Dumpsters, and similar equipment, Tournorockers, Tournowagon, Turnotrailer, Cat. D.W. Series, Terra Cobra, Le Tourneau, Westinghouse, Athye wagon, Euclid two and four-wheeled power tractor with trailer and similar top-loaded equipment transporting material: Dump trucks, side, end and bottom dump, including semi-trucks and trains or combinations thereof with less than 16 yards capacity; Flatbed (Dual Rear Axle); Grease Truck, Fuel Truck, Greaser, Battery Service Man and/or Tire Service Man; Leverman and loader at bunkers and batch plants; Oil tank transport; Scissor truck; Slurry Truck; Sno-Go and similar equipment; Swampers; Straddler Carrier (Ross, Hyster) and similar equipment; Team Driver; Tractor (small, rubber-tired)(when used within Teamster jurisdiction); Vacuum truck; Water Wagon and Tank trucks-less than 3,000 gallons capacity; Winch Truck; Wrecker, Tow truck and similar equipment

GROUP 3 - Flatbed (single rear axle); Pickup Sweeper; Pickup Truck. (Adjust Group 3 upward by \$2.00 per hour for onsite work

only)

GROUP 4 - Escort or Pilot Car

GROUP 5 - Mechanic

#### HAZMAT PROJECTS

Anyone working on a HAZMAT job, where HAZMAT certification is required, shall be compensated as a premium, in addition to the classification working in as follows:

LEVEL C: +\$.25 per hour - This level uses an air purifying respirator or additional protective clothing.

LEVEL B: +\$.50 per hour - Uses same respirator protection as Level A. Supplied air line is provided in conjunction with a chemical "splash suit."

LEVEL A: +\$.75 per hour - This level utilizes a fully-encapsulated suit with a self-contained breathing apparatus or a supplied air line.

#### ZONE DIFFERENTIALS

Zone pay will be calculated from the city center of the following listed cities:

BELLINGHAM	CENTRALIA	RAYMOND	OLYMPIA
EVERETT	SHELTON	ANACORTES	BELLEVUE
SEATTLE	PORT ANGELES	MT. VERNON	KENT
TACOMA	PORT TOWNSEND	ABERDEEN	BREMERTON

TRAVEL - Zone A - 0 - 25 miles - Free Zone

Zone B - 25 - 45 miles - \$ .70 per hour.

Zone C - Over 45 miles - \$1.00 per hour.

-----  
TEAM0760C 06/01/1999

#### Rates

#### Fringes

COUNTIES FROM THE TOP OF THE CASCADE MOUNTAIN RANGE EAST: ADAMS, ASOTIN, BENTON, CHELAN, COLUMBIA, DOUGLAS, FERRY, FRANKLIN, GARFIELD, GRANT KITTITAS, LINCOLN, OKANOGAN, PEND OREILLE, SPOKANE, STEVENS, WALLA WALLA, AND WHITMAN COUNTIES

#### TRUCK DRIVERS

(ANYONE WORKING ON HAZMAT JOBS SEE FOOTNOTE A BELOW)

ZONE 1: (INCLUDES ALL OF YAKIMA COUNTY)

GROUP 1	17.42	7.31
GROUP 2	19.69	7.31
GROUP 3	20.19	7.31
GROUP 4	20.52	7.31
GROUP 5	20.63	7.31
GROUP 6	20.80	7.31
GROUP 7	21.33	7.31
GROUP 8	21.66	7.31

Zone Differential (Add to Zone 1

rate: Zone 2 - \$2.00)

BASE POINTS: Spokane, Moses Lake, Pasco, Lewiston

Zone 1: 0-45 radius miles from the main post office.

Zone 2: 45 radius miles and over from the main post office

#### TRUCK DRIVERS CLASSIFICATIONS

GROUP 1: Escort Driver or Pilot Car; Employee Haul; Power Boat Hauling Employees or Material

GROUP 2: Fish Truck; Flat Bed Truck; Fork Lift (3000 lbs. and under); Leverperson (loading trucks at bunkers); Trailer Mounted Hydro Seeder and Mulcher; Seeder & Mulcher; Stationary Fuel Operator; Tractor (small, rubber-tired, pulling trailer or similar equipment)

GROUP 3: Auto Crane (2000 lbs. capacity); Buggy Mobile & Similar; Bulk Cement Tanks & Spreader; Dumptr (6 yds. & under); Flat Bed Truck with Hydraulic System; Fork Lift (3001-16,000 lbs.); Fuel Truck Driver, Steamcleaner & Washer; Power Operated Sweeper; Rubber-tired Tunnel Jumbo; Scissors Truck; Slurry Truck Driver; Straddle Carrier (Ross, Hyster, & similar); Tireperson; Transit Mixers & Truck Hauling Concrete (3 yd. to & including 6 yds.); Trucks, side, end, bottom & articulated end dump (3 yards



to and including 6 yds.); Warehouseperson (to include shipping & receiving); Wrecker & Tow Truck

GROUP 4: A-Frame; Burner, Cutter, & Welder; Service Greaser; Trucks, side, end, bottom & articulated end dump (over 6 yards to and including 12 yds.); Truck Mounted Hydro Seeder; Warehouseperson; Water Tank truck (0-8,000 gallons)

GROUP 5: Dumptor (over 6 yds.); Lowboy (50 tons & under); Self-loading Roll Off; Semi-Truck & Trailer; Tractor with Steer Trailer; Transit Mixers and Trucks Hauling Concrete (over 6 yds. to and including 10 yds.); Trucks, side, end, bottom and end dump (over 12 yds. to & including 20 yds.); Truck-Mounted Crane (with load bearing surface either mounted or pulled, up to 14 ton); Vacuum Truck (super sucker, guzzler, etc.)

GROUP 6: Flaherty Spreader Box Driver; Flowboys; Fork Lift (over 16,000 lbs.); Dumps (Semi-end); Mechanic (Field); Semi-end Dumps; Transfer Truck & Trailer; Transit Mixers & Trucks Hauling Concrete (over 10 yds. to & including 20 yds.); Trucks, side, end, bottom and articulated end dump (over 20 yds. to & including 40 yds.); Truck and Pup; Tournarocker, DW's & similar with 2 or more 4 wheel-power tractor with trailer, gallonage or yardage scale, whichever is greater Water Tank Truck (8,001-14,000 gallons)

GROUP 7: Oil Distributor Driver; Stringer Truck (cable operated trailer); Transit Mixers & Trucks Hauling Concrete (over 20 yds.); Truck, side, end, bottom end dump (over 40 yds. to & including 100 yds.); Truck Mounted Crane (with load bearing surface either mounted or pulled (16 through 25 tons);

GROUP 8: Prime Movers and Stinger Truck; Trucks, side, end, bottom and articulated end dump (over 100 yds.); Helicopter Pilot Hauling Employees or Materials

Footnote A - Anyone working on a HAZMAT job, where HAZMAT certification is required, shall be compensated as a premium, in addition to the classification working in as follows:

LEVEL C-D: - \$.50 PER HOUR (This is the lowest level of protection. This level may use an air purifying respirator or additional protective clothing.

LEVEL A-B: - \$1.00 PER HOUR (Uses supplied air in conjunction with a chemical splash suit or fully encapsulated suit with a self-contained breathing apparatus.

NOTE: Trucks Pulling Equipment Trailers: shall receive \$.15/hour over applicable truck rate

-----  
WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

-----  
WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

=====

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29 CFR 5.5(a)(1)(v)).

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In the listing above, the "SU" designation means that rates listed under that identifier do not reflect collectively bargained wage and fringe benefit rates. Other designations indicate unions whose rates have been determined to be prevailing.

#### WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- \* an existing published wage determination
- \* a survey underlying a wage determination
- \* a Wage and Hour Division letter setting forth a

position on a wage determination matter  
\* a conformance (additional classification and rate)  
ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations  
Wage and Hour Division  
U. S. Department of Labor  
200 Constitution Avenue, N. W.  
Washington, D. C. 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator  
U. S. Department of Labor  
200 Constitution Avenue, N. W.  
Washington, D. C. 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board  
U. S. Department of Labor  
200 Constitution Avenue, N. W.  
Washington, D. C. 20210

4.) All decisions by the Administrative Review Board are final.

END OF GENERAL DECISION

## TABLE OF CONTENTS

### TECHNICAL SPECIFICATIONS

Section  
No.

Section Title

#### DIVISION 1 - GENERAL REQUIREMENTS

01001	Supplementary Requirements
01005	Site Specific Supplementary Requirements
01025	Measurement and Payment
01035	Modification Procedures
01061	Environmental Protection
01320	Project Schedule
01330	Submittal Procedures
01451	Contractor Quality Control
01501	Construction Facilities and Temporary Controls
01560	Care and Diversion of Water
01702	As Built Records and Drawings
01703	Warranty of Construction

#### DIVISION 2 - SITEWORK

02220	Demolition
02230	Clearing and Grubbing
02300	Earthwork
02378	Filter Fabric
02380	Riprap
02463	Steel H-Piles for Civil Works
02722	Aggregate Surface Course For Roads And Trails
02920	Type I Vegetation
02922	Type III Vegetation - Seeding
02940	Rootwads and Logs
02950	Rock Boulders
02960	Fabric Wrapped Soil Lifts

#### DIVISION 3 - CONCRETE

03101	Formwork for Concrete
03201	Concrete Reinforcement
03302	Concrete
03413	Precast Concrete

#### DIVISION 4 – (Not used)

#### DIVISION 5 - METALS

05090	Welding, Structural
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#### DIVISIONS 6 THROUGH 16 – (Not used)

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## SECTION 01001

### SUPPLEMENTARY REQUIREMENTS

#### PART 1 GENERAL

##### 1.1 DEFINITIONS

The references listed below are to be defined as indicated wherever they may be used in the TECHNICAL SPECIFICATIONS.

"SUPPLEMENTARY REQUIREMENTS " shall be read to pertain to any of the sections of the DIVISION 1 as required by the content of the section or paragraph containing the reference.

Specification "SECTION 01300 – SUBMITTALS" shall be read as a specification "SECTION 01330 – SUBMITTAL PROCEDURES".

Specification "SECTION 01400 – CONTRACTOR QUALITY CONTROL" shall be read as a specification "SECTION 01451 – CONTRACTOR QUALITY CONTROL".

##### 1.2 CONSTRUCTION SCHEDULING

In-water work must be performed and completed between May 15th and September 30th. Diversion of water may not begin before May 15th, and must end by September 30th. Work may continue in the area below the ordinary high water mark until October 15th.

The instructions for preparation and submittal of the Contractor-prepared Network Analysis System are found in SECTION 01320, PROJECT SCHEDULE.

##### 1.3 CORRESPONDENCE

1.3.1 All correspondence shall be addressed to the Administrative Contracting Officer, shall be serially numbered commencing with Number 1, with no numbers missing or duplicated and shall be furnished with an original and one copy. Enclosures attached or transmitted with the correspondence shall also be furnished with an original and one copy. Each serial letter shall make reference to the contract name, contract number and shall have only one subject.

1.3.2 All correspondence from the Contracting Officer will be also serially numbered with no numbers missing or duplicated. Letters to the Contractor will be forwarded in duplicate.

1.3.3 In the event there is more than one project within a contract, correspondence shall contain separate and distinct submittals to identify each project by name.

1.3.4 For submission of Contractor payment requests, See Section 01025, MEASUREMENT AND PAYMENT.

#### 1.4 CONTRACTOR'S FILES

Contractor shall maintain "Approved (Action Code "A") and "Approved Except as Noted (Action Code "B") shop drawing files in fabrication shops and at project sites for government use.

#### 1.5 IDENTIFICATION OF EMPLOYEES (1984 APR OCE):

The Contractor shall be responsible for furnishing an identification badge/card to each employee prior to the employees work on-site, and for requiring each employee engaged on the work to display identification (insert specific type identification required and procedure for obtaining such ID). All prescribed identification shall immediately be delivered to the Contracting Officer, for cancellation upon the release of the employee. (Include the following sentence if fingerprints are required). The Contractor shall obtain and submit fingerprints of all persons employed or to be employed on the project.

#### 1.6 PERMITS OBTAINED BY GOVERNMENT AND CONTRACTOR RESPONSIBILITIES

The Government has obtained the following permits/licenses (copies attached to the end of this Section) related to the construction of this project:

- Washington State Dept. of Fish and Wildlife Hydraulic Project Approval
- Washington State Dept. of Ecology Water Quality Certification

It will be the responsibility of the Contractor to obtain all other permits/licenses required for this project. See the Contract Clause paragraph entitled PERMITS AND RESPONSIBILITIES.

#### 1.7 PRESERVATION OF HISTORICAL, ARCHEOLOGICAL AND CULTURAL RESOURCES (1985 JAN OCE):

If, during construction activities, the Contractor observes items that might have historical or archeological value, such observations shall be reported immediately to the Contracting Officer so that the appropriate authorities may be notified and a determination can be made as to their significance and what, if any, special disposition of the finds should be made. The Contractor shall cease all activities that may result in the destruction of these resources and shall prevent his employees from trespassing on, removing, or otherwise damaging such resources.

#### 1.8 SPECIAL SAFETY REQUIREMENTS:

All construction activities shall be conducted in strict compliance with the Corps of Engineers Safety and Health Requirements Manual EM 385-1-1, and Occupational Safety and Health Administration regulations, as applicable. The manual is available on line at:  
<http://www.usace.army.mil/inet/usace-docs/eng-manuals/em385-1-1/toc.htm>.

See Section 01501, Construction Facilities and Temporary Controls, for railroad coordination requirements.

1.8.1 In addition to Safety and Health Requirements Manual EM 385-1-1, and all applicable OSHA standards, the Contractor shall comply with the requirements listed below. Paragraph numbers refer to EM 385-1-1 or are added thereto.

(a) Paragraph 01.A.12: Add new paragraph: Safety Personnel. The Contractor shall designate a person on his staff to manage the Contractor's safety and accident prevention program. This person will provide a point of contact for the Contracting Officer on matters of job safety, and shall be responsible for ensuring the health and safety of on site personnel.

(b) Paragraph 01.D.02, revise as follows:

(1) Replace paragraph 01.D.02c with the following:

"c. Property damage in excess of \$2,000.00

(2) Add new paragraph d as follows:

"An injury resulting in a lost workday, not including the day of injury."

#### 1.9 TIME EXTENSIONS FOR UNUSUALLY SEVERE WEATHER (ER 415-1-15 31 OCT 89)

This Paragraph specifies the procedure for the determination of time extensions for unusually severe weather in accordance with the CONTRACT CLAUSE entitled "Default (Fixed Price Construction)". In order for the Contracting Officer to award a time extension under this clause, the following conditions must be satisfied:

1.9.1 The weather experienced at the project site during the contract period must be found to be unusually severe, that is, more severe than the adverse weather anticipated for the project location during any given month.

1.9.2 The unusually severe weather must actually cause a delay to the completion of the project. The delay must be beyond the control and without the fault or negligence of the contractor.

1.9.3 The following schedule of monthly anticipated adverse weather delays is based on National Oceanic and Atmospheric Administration (NOAA) or similar data for the project location and will constitute the base line for monthly weather time evaluations. The contractor's progress schedule must reflect these anticipated adverse weather delays in all weather dependent activities.

#### MONTHLY ANTICIPATED ADVERSE WEATHER DELAY WORK DAYS BASED ON (5) DAY WORK WEEK

<u>JAN</u>	<u>FEB</u>	<u>MAR</u>	<u>APR</u>	<u>MAY</u>	<u>JUN</u>	<u>JUL</u>	<u>AUG</u>	<u>SEP</u>	<u>OCT</u>	<u>NOV</u>	<u>DEC</u>
N		R									
9	8	8	4	2	3	1	2	4	7	10	10

1.9.4 Upon acknowledgment of the notice to proceed (NTP) and continuing throughout the contract, the contractor will record on the daily QCQ report, the occurrence of adverse weather and resultant impact to normally scheduled work. Actual adverse weather delays must prevent work on critical activities for 50 percent or more of the contractor's scheduled work day.

1.9.5 The number of actual adverse weather delay days shall include days impacted by actual adverse weather (even if adverse weather occurred in previous month), be calculated chronologically from the first to the last day of each month, and be recorded as full days. If the number of actual adverse weather delay days exceeds the number of days anticipated in paragraph 1.15.3, above, the Contracting Officer will convert any qualifying delays to calendar days, giving full consideration for equivalent fair weather work days, and issue a modification in accordance with the contract clause entitled " Default (Fixed Price Construction)".

## 1.10 COMPLIANCE WITH DAVIS-BACON ACT

### 1.10.1 Contractor POC

Within 14 days after award of the contract, the Contractor shall designate a point of contact (POC) within their organization that will be responsible for the Davis-Bacon Act Labor Program for the Contractor and all subcontractors under this contract as required by the Contract Clauses and FAR 52.222.

### 1.10.2 Responsibilities

The designated Contractor POC shall be responsible for Davis-Bacon Act Labor Program activities including, but not limited to:

- Documentation and record keeping
- Submittal and accuracy of certified payrolls
- Submittal of required labor forms including requests for additional classifications and rates, Statements and Acknowledgement, etc.
- Posting of the wage determination, approved additional classifications and rates, labor and EEO posters
- Coordination with the Contracting Officer's Labor Program POC

Prior to submittal to the Government, payrolls shall be reviewed for compliance to all applicable labor standards, to include, but not be limited to the following items: correct wage rates, correct overtime classification and pay, misclassification of workers for work actually performed, apprentice to journeyman ratios, and registration of apprentice. Corrective actions shall be taken as necessary to ensure Contractor compliance with applicable contract and FAR clauses.

### 1.10.3 Certification

The Contractor POC shall provide a signed certification stating the following: "I certify that the submitted items being forwarded have been reviewed in detail and are correct and in strict conformance with the Labor Standards of the contract except as otherwise stated."

PARTS 2 AND 3 NOT USED





STATE OF WASHINGTON  
DEPARTMENT OF ECOLOGY

P.O. Box 47600 • Olympia, Washington 98504-7600  
(360) 407-6000 • TDD Only (Hearing Impaired) (360) 407-6006

January 24, 2000

CERTIFIED MAIL

Mr. Jerry Ficklin  
Simpson Timber Company  
3<sup>rd</sup> and Franklin  
Shelton, WA 98584

Dear Mr. Ficklin:

RE: Coverage Under the Stormwater General Permit for Construction Activity

Permit Number: **SO3-003781**

Site Name: Goldsborough Creek & Dam Restoration Project  
Location: ½ mile upstream of Goldsborough Creek SR-101  
Shelton, WA 98584

The Washington Department of Ecology has reviewed your application for coverage under the Stormwater General Permit for construction activity. We are granting coverage under the permit as of the date indicated on the cover page of the enclosed permit.

Please note your Permit Number on this letter and on the cover page of the enclosed permit. Use this number on any future correspondence with Ecology for the subject site. An example of a change could be a new contact person, a new owner of the project, or a Notice of Termination form to cancel the permit.

The permit covers the site listed in the Site Name portion of this letter. You should promptly notify Ecology of any corrections or of any contiguous construction phases which you want covered under this permit. In such cases, you should submit an additional application (NOI), noting your permit number and marking the change of information box on the NOI.

Please read the enclosed permit carefully. As a permittee, you are legally obligated to comply with its terms and conditions. A document called a Fact Sheet has been prepared by Ecology which helps to explain the permit. You may request a copy of the Fact Sheet by calling (360) 407-7156.

01001-5

R0001

Mr. Jerry Ficklin  
January 24, 2000  
Page 2

### **Stormwater Pollution Prevention Plan (SWPPP)**

The most significant requirement of the permit is the implementation of a Stormwater Pollution Prevention Plan. Plan requirements for construction activities are given in Special Condition S9 of the permit. The purpose of a Stormwater Pollution Prevention Plan is to reduce, eliminate, or prevent the pollution of stormwater through the application of Best Management Practices. As a condition of coverage under this permit, the SWPPP must be written and implementation started prior to the commencement of construction activity.

### **Permit Fees**

State law (RCW 90.48.465) requires that all permittees pay an annual permit fee. If your permit goes into effect during the State's fiscal year (June 30 - July 1), the initial fees will be prorated to the quarter. Future yearly billing notices will be mailed to you in August.

Permits that terminate during the State's fiscal year will have their fees prorated. Ecology will not process refunds if the ending balance of the fee account is less than one hundred dollars (\$100).

If you would like more information on the fee process, contact Bev Poston, Fee Administrator, Department of Ecology at (360) 407-6425.

### **Appeal**

You, or a third party, may appeal the decision to issue a general stormwater permit for your site. The appeal is limited to the general permit's applicability or non-applicability to your project, not the permit itself. An appeal may be filed with the Pollution Control Hearings Board, P.O. Box 40903, Olympia, Washington 98504-0903 within thirty days from the effective date of the permit. In addition, a copy of the appeal must be served on the Department of Ecology, P.O. Box 47696, Olympia, Washington 98504-7696. Enclosed is a copy of RCW 43.21B.310 that lists the procedures and requirements for the appeal process.

### **Notice of Termination**

After your site has undergone final stabilization (see definition on page 4 of permit) and all stormwater discharges from construction activities are eliminated, you should complete and submit a Notice of Termination form. A blank Notice of Termination form is included in your permit as Appendix 2. Permit fees will continue until Ecology receives the termination notice.

### **Renewal**

This permit expires on November 18, 2000. If you will be discharging stormwater associated with construction activity from your site after November 18, 2000, you must continue coverage under the next permit which will be issued. Unless otherwise notified by Ecology, the Renewal Application included in the permit as Appendix 3 must be submitted to the Department of Ecology

01001-6

R0001

Mr. Jerry Ficklin  
January 24, 2000  
Page 3

at least 180 days prior to the expiration date of the permit. Do not submit the Renewal Application prior to April 23, 2000.

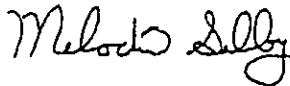
Ecology Regional Assistance

If you have questions regarding stormwater discharges for your construction site, select the county where your construction site is located and call the Ecology staff person assigned to that county:

SOUTHWEST REGIONAL OFFICE IN OLYMPIA	
Kerry Carroll, Coord. (360) 407-6280	Clallam, Clark, Cowlitz, Grays Harbor, Jefferson, Lewis, Mason, Pacific, Pierce, Skamania, Thurston, Wahkiakum

Please call (360) 407-6437 if you have any questions.

Sincerely,



Melodie A. Selby, P.E., Manager  
Program Development Services  
Water Quality Program

Enclosures

cc: Kerry Carroll, Ecology, SWRO  
Jim Fraser, Fish & Wildlife

01001-7

R0001

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STATE OF WASHINGTON  
DEPARTMENT OF ECOLOGY

P.O. Box 47775 • Olympia, Washington 98504-7775 • (360) 407-6300

REGISTERED MAIL

RECEIVED

FEB 4 - 2000

WDFW HABITAT MGMT

January 31, 2000

Mr. David Price  
Washington State Department of Fisheries  
600 Capitol Way North  
Olympia WA 98501-1091

Dear Mr. Price:

Re: Water Quality Certification for Corps Public Notice PL-00-01 -- Removal of a portion of the existing dam, excavating material above the dam, placement of fill material below the dam, and construction of weirs to allow for fish passage at Goldsborough Creek, Mason County, Washington.

The above referenced public notice for proposed work in and adjacent to Goldsborough Creek has been reviewed. On behalf of the State of Washington, we certify that the work proposed complies with applicable provisions of Sections 301, 302, 303, 306, and 307 of the Clean Water Act, as amended, and other appropriate requirements of State law. This letter also serves as the state response to the Corps of Engineers.

Pursuant to Section 307(c)(3) of the Coastal Zone Management Act of 1972 as amended, Ecology concurs with the applicant's determination that this work is consistent with the approved Washington State Coastal Zone Management Program. This concurrence is based upon the applicants compliance with all applicable enforceable policies of the Coastal Zone Management Program, including Section 401 of the Federal Water Pollution Control Act.

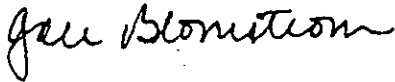
01001-9

20001

Mr. Price  
January 31, 2000  
Page 2

This certification is subject to the conditions contained in the enclosed Order. If you have any questions please contact Helen Pressley at (360) 407-6926. Written comments can be sent to her at the Department of Ecology, P O Box 47775, Olympia WA 98504-7775. The enclosed Order may be appealed by following the procedures described in the order.

Sincerely,



Gale Blomstrom  
Section Supervisor  
Shorelands and Environmental  
Assistance Program

GB:HP:dj

Enclosure

cc: Dean Paron, Corps of Engineers  
Justine Barton, EPA  
Jim Fraser, WDFW  
Simpson Timber Corporation  
Scott and Karen Hilburn  
Miles Sand and Gravel Co.  
Timothy and Lisa Kitlilshy  
Perry Lund, Ecology  
Kim Van Zwahlenburg, Ecology

01001-10

R0001

## Appendix C

### Stormwater Pollution Prevention Plan

Implementation of a Stormwater Pollution Prevention Plan is required by the National Pollutant Discharge Elimination System and State Waste Discharge Baseline General Permit to Discharge Stormwater Associated with Construction Activities administered by Washington State Department of Ecology. The following sections contain information on the purpose of this project, existing site conditions, BMPs that will be used to control or prevent erosion, sedimentation, and the transport of other pollutants, and schedule. This Stormwater Pollution Prevention Plan was developed to comply with the provisions of the State of Washington Water Pollution Control Law (Chapter 90.48 R.C.W.).

#### INTRODUCTION

This restoration project entails removing Goldsborough Dam to promote fish passage through this reach of Goldsborough Creek. The approximately 30 foot high dam will be replaced by a series of approximately 36 weirs along a 1850 foot length of the creek to provide grade control and encourage fish access. The general sequence of construction activities is as follows:

1. Erosion control measures will be placed for staging areas and access routes. Staging areas and access routes to the project site will then be established.
2. A stream diversion will be installed to bypass the normal streamflow around the construction area for the duration of the project.
3. Project will be constructed.
4. Following completion of project construction, the diversion structure will be removed and the site will be revegetated.

The project will not result in a permanent increase in impervious surface.

#### EXISTING CONDITIONS

##### Site Description

The Goldsborough Creek project is located in Southwest Washington, just west of the City of Shelton in Mason County (Plates G3 and G4). The existing dam is located at river mile 2.3 on Goldsborough Creek. Downstream of the project area, the creek runs through the City of Shelton and empties into Oakland Bay. Upstream of the project, the creek flows freely through forested areas draining approximately 44.5 square miles of high quality habitat.



The project footprint extends approximately 950 feet upstream and 900 feet downstream of the existing dam (Plates G4, C2 to C4). On the upstream side of the dam the existing stream invert will be lowered up to 15 feet and the excavated width varies from 70 to 150 feet. The total quantity of material to be excavated is 45,000 cubic yards. Of that, 42,800 cubic yards consists largely of the upstream granular layer (See Appendix A) and 2200 cubic yards consist of the Kitsap formation. Backfill after structures and bank protection is placed totals 4400 cubic yards.

On the downstream side of the dam, the stream invert will be raised up to 15 feet by the placement of fill material, though some excavation is necessary to provide the required conveyance. The filled channel width is typically 100 feet, but varies from a maximum of 140 feet just downstream of the dam to a minimum of 80 feet at point midway through the lower reach. In total, there are 11,700 CY of excavation and 13,900 CY of fill in the downstream reach. Based on the findings of the geotechnical report (Appendix A) it is assumed that granular material excavation upstream of the dam will be dewatered and used as fill in the downstream section. Therefore, import of fill material is limited to riprap and the layer of cobbles that will be placed in the bottom of the stream. There is a net excess of 38,400 cubic yards in the project and it is assumed that this will be disposed of offsite.

### Soils

The overlying sediments within the project area are probably derived from the Skokomish Gravel Unit, a coarse oxide-stained gravel that is generally poorly sorted with sand, silt, clay and local peat; and/or Vashon Till, a glaciofluvial mixture of clay, silt, sand, gravel and boulders. For simplicity, only three basic soil units along the project reach are called out:

- Upstream Granular Layer SM/GM- This unit consists of loose to medium dense clean to silty sand and gravel with some pockets or interbeds of fine grained soils and peat. The unit is underlain by the Kitsap Formation.
- Downstream Granular Layer GP/GM- This unit consists of medium dense to dense silty or clayey sandy gravel.
- Kitsap Formulation Silt (ML)- This very stiff to hard overconsolidated silt with occasional pockets of sand and gravel underlies the two granular layers described above throughout the reach.

### Critical Areas

The project area within Goldsborough Creek is not specifically identified in the Mason County Resource Ordinance Revised October 12, 1999. However, the project area does come under the provisions of the Resource Ordinance, specifically wetlands under Chapter 17.01.070, and fish and wildlife habitat conservation under Chapter 17.01.110. During construction care will





be taken to limit the disturbance of wetlands and riparian areas where they are not directly involved in restoration activities.

## **EROSION AND SEDIMENT CONTROL PLAN**

As part of the construction specifications, erosion control measures have been developed for construction to minimize erosion during the course of the project. The following sections describe measures that will be used during the project. Installation of the measures described in this plan will entail minor grading of cut and fill slopes to accommodate erosion control structures, and erosion and sedimentation control measures. Permanent and temporary structural erosion control measures are usually installed before vegetative restoration of the site is initiated.

### **Physical Erosion Control Plan**

The appropriate application of physical erosion control methods can significantly reduce erosion and the amount of sediment and pollutants transported from the project site. The BMPs described in this plan were developed by the Department of Ecology for practical application, and can be referenced by the alpha-numerical code noted for each BMP to details listed in the Stormwater Management Manual for the Puget Sound Basin (1992). The contractor is not limited to BMP's contained in that manual and can apply other BMP's that are approved by the project engineer.

Natural vegetation performs as an effective filter in removing loose sediment from site runoff and should be preserved wherever practical (BMP E1.25, Preserving Natural Vegetation; BMP E1.30 Buffer Zones). Using the existing on-site vegetation in conjunction with other methods reduces the cost of erosion control and the overall disturbance to the site's natural appearance. Whenever possible, preservation of natural vegetation is the preferred erosion control measure.

In areas where the native vegetative cover can not be preserved or is not present in sufficient quantity, temporary erosion control structures will be used. Temporary erosion control measures may be used and removed after construction to minimize the potential for erosion. Efforts will be made to minimize the width of the right-of-way to be disturbed by construction activities. When necessary, stacked hay bales or fabric fencing will be used to divert any runoff, from the work area to a designated control area.



### Streambank Stabilization

The major erosion control issue related to this project will be stabilization of the newly-constructed streambank along the restored reach of Goldsborough Creek. See design detail in drawings and specifications for streambank construction and planting specifics. Construction of the restored streambanks will be directed on-site by engineers and biologists experienced with the required techniques. In general, the methods will conform to streambank stabilization BMPs described in the Ecology Stormwater Management Manual (BMP E2.80 Vegetative Streambank Stabilization; BMP E2.85 Bioengineering Methods of Streambank Stabilization; BMP E2.90 Structural Streambank Stabilization).

### Control and Treatment of Construction Site Stormwater

To control erosion and sediment run-off from the construction site, a silt fence will be placed on the creek banks. The silt fence will be installed prior to any clearing. If there is any sediment accumulation behind the silt fences, it will be removed and stabilized at the time the fence is removed. All stormwater will be routed and collected at a temporary sediment pond prior to release to the creek downstream of the project. Applicable Ecology BMPs include:

- E2.50 Level Spreader
- E2.60 Check Dams
- E2.70 Outlet Protection
- E3.35 Sediment Trap
- E3.40 Temporary Sediment Pond
- E2.55 Interceptor Dike and Swale

### Gravel Construction Entrances

Construction entrances, associated access roads, and staging areas will be stabilized according to the criteria described in the Stormwater Management Manual (Department of Ecology, 1992) (BMP E2.10, Stabilized Construction Entrance and Tire Wash; BMP E2.15, Construction Road Stabilization). There are two access points to the project area (Plates G3 and G4). The north access will be from Franklin Road through the Miles Sand and Gravel yard. The area is already graveled and additional cover is not required. The south access is via a paved road off of Hulbert Road that leads to a dirt road near the Cascade Gas pipeline easement. The dirt road will be widened and graveled. The recommended width of the gravel pad should be the full



width of the vehicle ingress and egress area. In areas of significant or regular inundation (standing water), gravel will be comprised of clean rock without the presence of binders.

If the measures described above do not prevent sediment from being tracked onto adjacent public roads, additional actions, such as a tire wash, will be used. Wastewater from the wheel wash or tire bath will be discharged to an on-site sediment trap or basin. If sediment is transported onto the road surface off-site, it shall be cleaned by the end of the day. Wastewater from washing the road surface shall be pumped back on-site or prevented from discharging into adjacent water bodies.

#### Initial Diversion/Sediment Barriers

Initial diversion and sediment barrier methods will consist of non-graded stabilization techniques such as silt filter fences and straw bale barriers designed to remove silt from surface runoff. These techniques may be applied alone or in combination, depending on site-specific applicability and availability of materials. Both are primarily temporary erosion control techniques, designed for use during construction, and until permanent erosion control structures are installed and vegetation established. The locations for use of these materials will be determined on-site.

Filter silt fences will be constructed as needed along the contour, at the toes of steep cuts and fills, at natural drainage areas, and down slope of disturbed areas where runoff occurs as sheet runoff (BMP E3.10, Filter Fence). They will be employed over short distances only where erosion hazards are excessive and where wildlife movement will not be restricted.

Filter silt fences should consist of filter fabric with the bottom 6 inches buried vertically below the finished grade. The fabric will be secured by fence posts (2 inches by 2 inches) spaced no more than 6 feet apart and driven a minimum of 1.5 feet into the ground. The aboveground height of the fence posts should be no less than 2 feet. The stitched loop containing the posts should be faced up-slope. In streams and on steep slopes where high flow may be encountered, the silt fence should be supported with a wire mesh fence. A wire mesh fence with 6-inch or smaller openings can be fastened to separate steel posts to reinforce the silt fence fabric. The mesh fence should stand at least 2 feet above ground and be buried at least 6 inches below ground. Ideally, both fences should be installed at the same time to minimize disturbances.

On gentle slopes, the fence may be supplemented with straw bales as a primary barrier to aid in preventing silt and sediment from entering ditch lines and waterways. Straw bales will be utilized where appropriate along the contour of natural slopes or cuts and fills to act as a temporary barrier to sediment movement. They will also be placed as temporary check dams



(BMP E2.60, Check Dams) in channels and at culvert outlets (BMP E2.70, Outlet Protection). Straw bales will be used at stream crossings as necessary to prevent spoils runoff from entering the stream. Bales will be embedded to a depth of 4 to 5 inches and anchored by wooden stakes (BMP E3.15, Straw Bale Barriers). When permanent control techniques are in place and functioning, the bales will be removed and may be spread at the site as mulch to reduce splash erosion.

### Soil Stabilization

All exposed and unworked soils, whether at final grade or not, must be stabilized using BMPs to protect the soils from erosion. During the period from May 1 to September 30 (the anticipated construction period for this project) no soils will remain exposed for more than 7 days. If the construction timeframe extends beyond October 1, the requirement drops to no soils may remain exposed for more than 2 days. Soil stockpiles must also be adequately stabilized and protected with sediment trapping BMPs.

Temporary, nonvegetative soil stabilization can be employed to provide protection against excessive soil erosion over a short-term period (less than 1 year). Non vegetative soil stabilization is used to reinforce vegetative measures and is not required where vegetative stabilization provides adequate long-term soil protection. In general, nonvegetative methods are required in areas that will experience high water flows or could experience high runoff velocities (disturbed slopes steeper than 2:1). These methods include mulching (BMP E1.15, Mulching and Matting), chemical soil stabilizers (binders), brush and slash (BMP E3.20, Brush Barrier), netting and matting, and stone coverage.

Mulch should consist of weed-free straw or hay applied at an appropriate rate (e.g., 1.5 to 2.5 tons/acre is typical). Where applicable, mulch anchoring should be implemented promptly and should be achieved by one of the following methods: 1) peg and twine; 2) mulch netting, erosion control fabric, or jute matting; 3) crimping, disking, or punching into the soil; or 4) keeping the mulch moist (natural precipitation often provides enough moisture to accomplish this).

Alternative mulching materials are wood chips, bark chips, shredded bark, and wood fiber. Wood chips may be used in areas of slopes of less than 6 percent as they are prone to wash down. Wood chips decompose slowly and typically do not require securing from wind. In order to prevent nutrient deficiency in plants, wood chips should be treated with 12 lbs. of nitrogen per ton. Unlike wood chips, bark chips and shredded bark do not require nitrogen treatment, but are susceptible to wash down on slopes steeper than 6 percent and should not be used in these cases.



Wood fiber is typically used in hydro-seeding operations as part of the slurry make-up. The longer wood fibers will provide better protection against erosion; however, this method does not work well in areas with highly erodible soils during dry periods. Wood fiber hydro-seeding slurries used over straw mulch as a tacking agent works well in areas of steep slopes, critical areas, and severe climate conditions (BMP E1.15, Mulching and Matting).

#### Dust Control

During dry spells, disturbed land can dry out and wind erosion can cause soil loss. Measures will be taken to minimize wind erosion during these periods (BMP E2.20, Dust Control). The dust control methods discussed are meant to address wind erosion that may occur during the normal construction time frame. Land that will remain disturbed for longer periods (i.e., construction delays) may require stabilization as described above, through the use of vegetative cover (BMP E1.10, Temporary and Permanent Seeding). The preferred method for dust suppression is water sprinkling. The disturbed ground is sprayed lightly until the surface is wet. Circumstances that could preclude the use of this method include logistical problems or water-use restrictions because of drought conditions. In these instances, alternative methods must be used. One acceptable alternative method is the application of mulch described above for soil stabilization.

#### Tree Protection

Trees that are adjacent to the right-of-way shall be protected from environmental and mechanical injury during construction activities. Care will be taken to avoid damaging limbs and feeder roots during construction activities. Damaged trunks should be trimmed and tapered; damaged limbs should be cut off above the collar at the preceding branch juncture; and damaged roots should be cut off cleanly inside the damaged area. Exposed areas should be painted immediately with a good grade of "tree paint".

#### Maintenance

Constructed erosion controls will be periodically inspected to ensure effectiveness and to identify areas requiring maintenance. Sediment traps and discharge aprons will be checked and cleaned as necessary. Filter silt fences, straw bales, and brush piles will be periodically inspected for deterioration and replaced as necessary or removed when vegetation and permanent structures have been successfully established.



## CONTROL OF POLLUTANTS OTHER THAN SEDIMENT ON THE CONSTRUCTION SITE

The use of non-sediment potential pollutants will be minimal during construction. The primary materials expected on-site that fall into this category include petroleum products such as hydraulic fluid and diesel fuel for heavy equipment, and solid waste (garbage) generated during construction. Fertilizers may be applied to disturbed areas during revegetation at the end of the project. No pesticides or herbicides use is anticipated, and no equipment washing is expected to take place on-site. The following sections describe BMPs that will be utilized to prevent stormwater contamination from non-sediment pollutants. These BMPs were developed to meet requirements in the Stormwater Management Manual for the Puget Sound Basin (Washington State Department of Ecology, 1992).

### Handling of Petroleum Products

During construction, petroleum products could contaminate stormwater during vehicle and equipment maintenance, or equipment leaks. The primary petroleum materials on-site will be diesel fuel and hydraulic fluid. To reduce the risk of stormwater contamination during refueling and equipment maintenance, an off-site staging area will be established for these activities. If an on-site right-of-way staging area is determined to be necessary, then appropriate methods for controlling petroleum products will be implemented (BMP C1.20, Handling of Petroleum Products). In an effort to prevent stormwater pollution from leaking from equipment, routine inspections and preventive maintenance will be performed. Equipment will be inspected weekly, preferably on Friday, before sitting idle for 1 to 2 days. Worn hoses carrying oils and lubricants will be regularly inspected and replaced before they rupture.

### Nutrient Application and Control

Fertilizers will be applied during revegetation, the last phase of this project. Fertilizers will be applied where revegetation is required. Usually the bulk of the seeding and fertilizing will be done by hand. For large areas however, hydroseeding, which applies seed and fertilizer together, may be used. To minimize the flush of nutrients into waterways, several BMPs will be employed. First, effective soil stabilization through the use of any combination of straw mulch, jute matting, silt fences, and water bars will reduce soil and nutrient loss from seeded areas. Second, fertilizers will be applied at recommended application rates. Third, in streamside areas fertilizer will be applied sparingly and by hand. (BMP C1.30, Nutrient Application and Control).

### Solid Waste Handling and Disposal

Solid waste that will be generated during removal of the dam and restoration of the site includes trees and shrubs removed during right-of-way preparation, wood and paper from packaging and building materials, waste materials from demolition of the dam, and personal waste from on-site personnel such as food containers. Practices will be employed to minimize the amount of solid waste generated by this project, and to properly dispose of the waste that is produced (BMP C1.40, Solid Waste Handling and Disposal).

Tree and shrub waste generated during right-of-way preparation will be minimized through the use of selective vegetation removal. To the extent possible, vegetation that must be cut will be re-used on site for sediment and erosion control or wetland mitigation. To ensure that indiscriminate vegetation cutting and removal does not occur, Corps personnel (or their representative) and the construction contractor will visit the site prior to the start of construction to flag vegetation that will not be cut and vegetation that will be cut and retained on-site for erosion control or wetland mitigation uses.

Garbage collection facilities will be provided on-site and the collected garbage will be disposed regularly at authorized disposal areas. Waste containers will be clearly labeled and lids will be kept closed at all times. All personnel on-site will be reminded of the importance of using these facilities for garbage. Portable toilets will also be provided on-site for sanitary wastes.

### Spill Control Planning and Cleanup

Spills are possible from fuels and lubricants used in vehicles and equipment. The likelihood of spills occurring will be minimized when appropriate, through the use of secondary containment for these materials. Instructions for dealing with spills and spill cleanup materials will be stored in the staging area. The foreman on-site will be responsible for seeing that any spill is cleaned up immediately and properly (BMP C1.80, Spill Control Planning and Cleanup). The appropriate supervisory personnel working on site will be briefed on spill cleanup procedures and the location of spill cleanup materials.

If more than 1 gallon of diesel oil or hydraulic fluid does spill to the ground, or any volume of these products into surface water, the foreman will notify the spill response coordinator at the Washington State Department of Ecology Southwest Regional office in Olympia.

## SUPERVISION AND INSPECTION

The Corps or their designated representative will supervise the implementation of this SWPPP during each phase of the project including site restoration. Supervision and inspection activities may include the following:

- Ensure compliance with the requirements of this plan
- Mark surface and subsurface drainage locations
- Identify stabilization needs in all areas
- Oversee restoration of the soil topography as required
- Approve imported soils used as fill or additional cover material
- Document the implementation of the temporary and permanent erosion control and revegetation programs during and following construction activities
- Establish a program to monitor the success of the revegetation and the need for additional restoration where restoration is unsuccessful

## COORDINATION WITH LOCAL REQUIREMENTS

Goldsborough Creek is classified as a Category 1 area under the Mason County Shoreline Management Ordinance and is subject to meeting the entire requirement for stormwater management specified in Washington Department of Ecology's Stormwater Manual. If this project is permitted under the JARPA Fish Enhancement Project for the streamline process it will be exempt from local permit requirements. However, the contractor will still have to follow the BMP's called out in this stormwater pollution prevention plan and the state's stormwater manual.





# HYDRAULIC PROJECT APPROVAL

RCW 75.20.100 or RCW 75.20.108

State of Washington  
Department of Fish and Wildlife  
Region 7 Office  
600 Capitol Way North, MS 3155  
Olympia, Washington 98501-1091

**DATE OF ISSUE:** June 28, 2000

**LOG NUMBER:** 00-E4611-02

NOTE: At the request of, Brett DeMond, WDFW, on June 9, 2000, this Hydraulic Project Approval (HPA), which now supersedes all previous HPAs for this project, is a renewal of the original HPA issued January 18, 2000. Please note that Provisions 11 and 12 have been changed to reflect new project information. Separate HPA's from this HPA are written to include the smolt monitoring traps and the adult collection trap.

<u>PERMITTEE</u>	<u>AUTHORIZED AGENT OR CONTRACTOR</u>
Washington Department of Fish and Wildlife ATTENTION: Brett DeMond 600 Capitol Way No. Olympia, WA 98501-1091 (360) 902-8302	Not Applicable

**PROJECT DESCRIPTION:** Stream Restoration; Remove Wood Dam, Excavate and Fill Channel, Place metal Weirs

**PROJECT LOCATION:** 1 mile west of Shelton at River Mile 2.3.

#	<u>WRIA</u>	<u>WATER BODY</u>	<u>TRIBUTARY TO</u>	<u>1/4 SEC.</u>	<u>SEC.</u>	<u>TOWNSHIP</u>	<u>RANGE</u>	<u>COUNTY</u>
1	14.0035	Goldsborough Creek	Oakland Bay	SE	14	20 North	04 West	Mason
2	.	.	.	NE	23	.	.	.
3	.	.	.	NW	24	.	.	.

## PROVISIONS

1. **TIMING LIMITATIONS:** The project may begin Immediately and shall be completed by August 15, 2002, provided:

a. Work below the ordinary high water line shall only occur between May 15 and October 15.

(NOTE: The August 15, 2002, completion date is an administrative end date for a Habitat Conservation Plan (HCP) development for the HPA program by WDFW. A time extension/renewal for this HPA can be issued for work after this date upon request after this date.)

2. **NOTIFICATION REQUIREMENT:** The permittee or contractor shall notify the Area Habitat Biologist (AHB) listed below of the project start date, planned water diversion date, and planned diversion of the water back into the original channel. Notification shall be received by the AHB at least three working days prior to the start of these work activities. The notification shall include the permittee's name, project location, starting date for work, and the control number for this Hydraulic Project Approval.
3. Work shall be accomplished per plans and specifications entitled, Goldsborough Creek Section 206 Restoration Project, dated December, 1999, and submitted to the Washington Department of Fish and Wildlife, except as modified by this Hydraulic Project Approval. These plans reflect design criteria per Chapter 220-110 WAC. These plans reflect mitigation procedures to significantly reduce or eliminate impacts to fish resources. A copy of these plans shall be available on site during construction.

The project includes restoration of upstream and downstream fish passage and stream habitat including:

- a. Removal of a deteriorated wood dam.



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- b. Full water bypass by pipeline.
- c. Excavate deposition upstream of the dam approximately 1,000 feet.
- d. Placement of fill downstream of the dam approximately 1,000 feet.
- e. Placement/driving 35 metal sheet pile and soldier weirs throughout the project length to control the drop.
- f. Placement of rock riprap and woody debris at selected bank areas.
- g. Establish riparian trees.
- h. Long term study and monitoring.

### WATER BYPASS AND DIVERSION

4. Stream/water diversions shall be conducted only after inspection and approval of the new channel by the Area Habitat Biologist listed below or his/her representative.
5. A temporary bypass to divert flow around the work area shall be in place prior to initiation of other work in the wetted perimeter. Pipeline bypass shall be the approved bypass method.
6. A sandbag revetment or similar device shall be installed at the bypass inlet to divert the entire flow through the bypass.
7. A sandbag revetment or similar device shall be installed at the downstream end of the bypass to prevent backwater from entering the work area.
8. The bypass shall be of sufficient size to pass all flows and debris for the duration of the bypass.
9. Diversion of the water into the pipeline bypass shall be done incrementally over an amount of time that will allow gradual dewatering of the channel section where construction will occur, to minimize fish stranding prior to physical removal from static pools.
10. The permittee shall capture and safely move food fish, game fish, and other fish life from the dewatered original channel/job site. The permittee shall have fish capture and transportation equipment ready and on the job site. Captured fish shall be immediately and safely transferred to free-flowing water downstream of the project site.
11. Before water is diverted back into the permanent new channel, all streambed construction, approved fish habitat components, streambed materials and bank protection to prevent erosion shall be in place. Fish habitat components and bank protection material shall be installed to withstand the 100-year peak flows.
12. When water is diverted from the temporary bypass back into the original channel, it shall be done gradually over a sufficient number of days for proper sediment dilution to meet the required downstream water quality standards set forth by the Department of Ecology (DOE) in the 401 Water Quality Certification for this project.
13. Upon completion of the project, all material used in the temporary bypass shall be removed from the site and the site returned to preproject or improved conditions.

### WATER QUALITY RELATED

14. Equipment used for this project shall be free of external petroleum-based products while working around the stream. Accumulation of soils or debris shall be removed from the drive mechanisms (wheels, tires, tracks, etc.) and undercarriage of equipment prior to its working below the ordinary high water line. Equipment shall be checked daily for leaks and any necessary repairs shall be completed prior to commencing work activities along the stream.



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15. All treated wood shall be professionally treated and completely cured prior to installation below the ordinary high water line to minimize leaching into the water or substrate. The use of wood treated with creosote or pentachlorophenol is not authorized.
16. All lumber to be used for the project shall meet or exceed the standards established in "Best Management Practices For the Use of Treated Wood in Aquatic Environments" developed by the Western Wood Preservers Institute, dated July 1996.
17. Wooden components which will be in contact with the water shall not contain creosote or pentachlorophenol. This shall include pilings, beams, structural supports, and decking. These components shall remain free of these toxic substances for the duration of their functional lives.
18. If at any time, as a result of project activities, fish are observed in distress, a fish kill occurs, or water quality problems develop (including equipment leaks or spills), operations shall cease and the Washington Department of Fish and Wildlife at (360) 902-2537 and Washington Department of Ecology at (360) 407-6300 shall be contacted immediately. Work shall not resume until further approval is given by the Washington Department of Fish and Wildlife.
19. Every effort shall be taken during all phases of this project to ensure that sediment-laden water is not allowed to enter the stream.
20. Erosion control methods shall be used to prevent silt-laden water from entering the stream. These may include, but are not limited to, straw bales, filter fabric, temporary sediment ponds, check dams of pea gravel-filled burlap bags or other material, and/or immediate mulching of exposed areas.
21. Wastewater from project activities and water removed from within the work area shall be routed to an area landward of the ordinary high water line to allow removal of fine sediment and other contaminants prior to being discharged to the stream.
22. All waste material such as construction debris, silt, excess dirt or overburden resulting from this project shall be deposited above the limits of flood water in an approved upland disposal site.
23. Extreme care shall be taken to ensure that no petroleum products, hydraulic fluid, fresh cement, sediments, sediment-laden water, chemicals, or any other toxic or deleterious materials are allowed to enter or leach into the stream.
24. Fresh concrete or concrete by-products shall not be allowed to enter the stream at any time during this project. All forms used for concrete shall be completely sealed to prevent the possibility of fresh concrete from getting into the stream.
25. Material removed from inside the cofferdam shall be disposed of outside the flood plain of the stream.
26. The cofferdam shall be completely sealed to prevent concrete or other deleterious products from leaching into the stream.

### REVEGETATION



**HYDRAULIC PROJECT APPROVAL**  
RCW 75.20.100 or RCW 75.20.108

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27. Alteration or disturbance of the bank and bank vegetation shall be limited to that necessary to construct the project. Within seven calendar days of project completion, all disturbed areas shall be protected from erosion using vegetation or other means. Within one year of project completion, the banks, including riprap areas, shall be revegetated with native or other approved woody species. Vegetative cuttings shall be planted at a maximum interval of three feet (on center) and maintained as necessary for three years to ensure 80 percent survival.

**CHANNEL RECONSTRUCTION**

28. The new channel shall incorporate fish habitat components, streambed materials, and native or other approved vegetation equivalent to or greater than that which previously existed in the old channel.
29. The streambed surface shall contain spawning type gravel mixture placed to a depth to accommodate spawning salmon.
30. Bank protection work shall be restricted to work necessary to protect the eroding bank.
31. Placement of bank protection material waterward of the ordinary high water line shall be restricted to the minimum amount necessary to protect the toe of the bank or for installation of mitigation features approved by the Washington Department of Fish and Wildlife.
32. The toe shall be installed to protect the integrity of bank protection material.
33. Fish habitat components such as logs, stumps, and/or large boulders are required as part of the bank protection project to mitigate project impacts. These fish habitat components shall be installed to withstand 100-year peak flows.
34. Bank protection material shall not constrict the flow and cause any appreciable increase (not to exceed 0.2 feet) in backwater elevation (calculated at the 100-year flood) or channel-wide scour, and shall be aligned to cause the least effect on the hydraulics of the stream.
35. Bank protection material shall be placed in a manner to avoid damage to existing vegetation.

SEPA: NEPA adopted by WDFW on January 17, 2000; DNS by WDFW on January 17, 2000.

36. APPLICATION ACCEPTED: January 17, 2000      37. ENFORCEMENT OFFICER: Ohlde 029 [P1]

Jim Fraser (360) 664-4670  
Area Habitat Biologist

for Director  
WDFW

cc: Dean Paron, U.S. Army Corps of Engineers  
Fred Seavey, U.S. Fish and Wildlife Service  
Jeff Dickson, Squaxin Tribe  
Jerry Ficklin, Simpson Timber Company  
Linda Matlock, DOE, SW Reg  
Helen Presley, DOE, SW Reg  
Pam Bennett-Cummings, Mason County Dept. Of Community Development



## HYDRAULIC PROJECT APPROVAL

RCW 75.20.100 or RCW 75.20.108

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### GENERAL PROVISIONS

This Hydraulic Project Approval (HPA) pertains only to the provisions of the Fisheries Code (RCW 75.20). Additional authorization from other public agencies may be necessary for this project.

This HPA shall be available on the job site at all times and all its provisions followed by the permittee and operator(s) performing the work.

This HPA does not authorize trespass.

The person(s) to whom this HPA is issued may be held liable for any loss or damage to fish life or fish habitat which results from failure to comply with the provisions of this HPA.

Failure to comply with the provisions of this Hydraulic Project Approval could result in a civil penalty of up to one hundred dollars per day or a gross misdemeanor charge, possibly punishable by fine and/or imprisonment.

All HPAs issued pursuant to RCW 75.20.100 or 75.20.160 are subject to additional restrictions, conditions or revocation if the Department of Fish and Wildlife determines that new biological or physical information indicates the need for such action. The permittee has the right pursuant to Chapter 34.04 RCW to appeal such decisions. All HPAs issued pursuant to RCW 75.20.103 may be modified by the Department of Fish and Wildlife due to changed conditions after consultation with the permittee: PROVIDED HOWEVER, that such modifications shall be subject to appeal to the Hydraulic Appeals Board established in RCW 75.20.130.

### APPEALS - GENERAL INFORMATION

IF YOU WISH TO APPEAL A DENIAL OF OR CONDITIONS PROVIDED IN A HYDRAULIC PROJECT APPROVAL, THERE ARE INFORMAL AND FORMAL APPEAL PROCESSES AVAILABLE.

#### A. INFORMAL APPEALS (WAC 220-110-340) OF DEPARTMENT ACTIONS TAKEN PURSUANT TO RCW 75.20.100, 75.20.103, 75.20.106, AND 75.20.160:

A person who is aggrieved or adversely affected by the following Department actions may request an informal review of:

- (A) The denial or issuance of a HPA, or the conditions or provisions made part of a HPA; or
- (B) An order imposing civil penalties.

It is recommended that an aggrieved party contact the Area Habitat Biologist and discuss the concerns. Most problems are resolved at this level, but if not, you may elevate your concerns to his/her supervisor. A request for an INFORMAL REVIEW shall be in WRITING to the Department of Fish and Wildlife, 600 Capitol Way North, Olympia, Washington 98501-1091 and shall be RECEIVED by the Department within 30-days of the denial or issuance of a HPA or receipt of an order imposing civil penalties. The 30-day time requirement may be stayed by the Department if negotiations are occurring between the aggrieved party and the Area Habitat Biologist and/or his/her supervisor. The Habitat Protection Services Division Manager or his/her designee shall conduct a review and recommend a decision to the Director or its designee. If you are not satisfied with the results of this informal appeal, a formal appeal may be filed.

#### B. FORMAL APPEALS (WAC 220-110-350) OF DEPARTMENT ACTIONS TAKEN PURSUANT TO RCW 75.20.100 OR 75.20.106:

A person who is aggrieved or adversely affected by the following Department actions may request a formal review of:

- (A) The denial or issuance of a HPA, or the conditions or provisions made part of a HPA;
- (B) An order imposing civil penalties; or
- (C) Any other "agency action" for which an adjudicative proceeding is required under the Administrative Procedure Act, Chapter 34.05 RCW.

A request for a FORMAL APPEAL shall be in WRITING to the Department of Fish and Wildlife, 600 Capitol Way North, Olympia, Washington 98501-1091, shall be plainly labeled as "REQUEST FOR FORMAL APPEAL" and shall be RECEIVED DURING OFFICE HOURS by the Department within 30-days of the Department action that is being challenged. The time period for requesting a formal appeal is suspended during consideration of a timely informal appeal. If there has been an informal



## HYDRAULIC PROJECT APPROVAL

RCW 75.20.100 or RCW 75.20.108

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appeal, the deadline for requesting a formal appeal shall be within 30-days of the date of the Department's written decision in response to the informal appeal.

**C. FORMAL APPEALS OF DEPARTMENT ACTIONS TAKEN PURSUANT TO RCW 75.20.103 or 75.20.160:**

A person who is aggrieved or adversely affected by the denial or issuance of a HPA, or the conditions or provisions made part of a HPA may request a formal appeal. The request for FORMAL APPEAL shall be in WRITING to the Hydraulic Appeals Board per WAC 259-04 at Environmental Hearings Office, 4224 Sixth Avenue SE, Building Two - Rowe Six, Lacey, Washington 98504; telephone 360/459-6327.

**D. FAILURE TO APPEAL WITHIN THE REQUIRED TIME PERIODS RESULTS IN FORFEITURE OF ALL APPEAL RIGHTS. IF THERE IS NO TIMELY REQUEST FOR AN APPEAL, THE DEPARTMENT ACTION SHALL BE FINAL AND UNAPPEALABLE.**

IN THE MATTER OF GRANTING  
A WATER QUALITY  
CERTIFICATION TO  
Washington Department of Fish and  
Wildlife in accordance with 33 U.S.C.  
1341 FWPCA § 401, RCW 90.48.260  
and WAC 173-201A

) ORDER #PL-00-01  
) Removal of a portion of the existing dam,  
) excavating material above the dam, placement  
) of fill material below the dam, and  
) construction of weirs for the purpose of fish  
) passage at Goldsborough Creek, Mason  
) County, Washington.

TO: Washington Department of Fish and Wildlife  
600 Capitol Way N  
Olympia, WA 98501-1091

ATTN: Mr. David Price:

On December 3, 1999, a public notice for a proposed water quality certification from the State of Washington was distributed for the above-referenced project pursuant to the provisions of 33 U.S.C. 1341 (FWPCA § 401). The proposed project includes removal of a portion of the existing dam, excavation of material above the dam, placement of fill material below the dam, and construction of weirs for the purpose of fish passage at Goldsborough Creek, Mason County, Washington.

Other Approvals/Permits:

- SEPA – exempt
- Shoreline Permit – exempt
- HPA #00-E4611-01 issued January 18, 2000

Applicable conditions of the above permits shall be considered conditions of this Order.

**AUTHORITIES:**

In exercising authority under 33 U.S.C. 1341 and RCW 90.48.260, Ecology has investigated this application pursuant to the following:

1. Conformance with applicable water quality-based, technology-based, and toxic or pretreatment effluent limitations as provided under 33 U.S.C. Sections 1311, 1312, 1313, 1316, and 1317 (FWPCA Sections 301, 302, 303, 306, and 307);
2. Conformance with the state water quality standards as provided for in Chapter 173-201A WAC authorized by 33 U.S.C. 1313 and by Chapter 90.48 RCW, and with other appropriate requirements of state law; and,
3. Conformance with the provision of using all known, available and reasonable methods to prevent and control pollution of state waters as required by RCW 90.48.010.

**WATER QUALITY CERTIFICATION CONDITIONS:** In view of the foregoing and in accordance with 33 U.S.C. 1341, 90.48.260 RCW and Chapter 173-201A WAC, certification is granted to the Washington State Department of Fisheries and Wildlife subject to the following conditions:

**No Impairment of Existing Water Quality:**

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- 1) Certification of this proposal does not authorize the applicant to exceed applicable state water quality standards (173-201A WAC), including the state sediment quality standards (173-204 WAC). Furthermore, nothing in this certification shall absolve the applicant from liability for contamination and any subsequent cleanup of surface waters or sediments occurring as a result of project construction or operations.

Goldsborough Creek, (WRIA #14, Class A water of the state) is on the current 303(d) list of impaired waterbodies for exceeding water quality standards for Fecal Coliform. This project shall not result in further exceedances of those standards, and will be out of compliance with this certification if discharges from the project exceed limits for those contaminants identified in 173-201A-030(2) WAC and/or 173-201A-040 WAC.

This project will be out of compliance with this certification if discharges from the project exceed limits established in 173-201A-030(1) WAC and/or 173-201A-040 WAC.

**Construction Conditions:**

- 2) All construction debris shall be properly disposed of on land so that it cannot enter the waterway or cause water quality degradation to state waters.
- 3) All excess excavated material shall be disposed of above the 100-year floodplain and shall be contained so as to prevent its re-entry into waters of the state.
- 4) Erosion control devices (e.g., filter fences, hay bales, etc.) suitable to prevent exceedances of state water quality standards shall be in place before starting project construction and shall be maintained throughout construction.
- 5) Wash water containing oils, grease, or other hazardous materials resulting from wash down of equipment or working areas shall not be discharged into state waters except as authorized by an NPDES or state waste discharge permit.

**Emergency/Contingency Measures:**

- 6) Any in-water work that is out of compliance with the provisions of this Order, or any discharge of oil, fuel, or chemicals into state waters, including wetlands, or onto land with a potential for entry into state waters, is prohibited. If these occur, the operator shall immediately take the following actions:
  - Cease operations.
  - Assess the cause of the water quality problem and take appropriate measures to correct the problem and/or prevent further environmental damage.
  - In the event of a discharge of oil, fuel, or chemicals into state waters, or onto land with a potential for entry into state waters, containment and cleanup efforts shall begin immediately and be completed as soon as possible, taking precedence over normal work. Cleanup shall include proper disposal of any spilled material and used cleanup materials.

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- Spills into state waters, spills onto land with a potential for entry into state waters, or other significant water quality impacts, shall be reported immediately to Ecology's Southwest Regional Spill Response Office at (360) 407-7300.
- 7) Fuel hoses, oil drums, oil or fuel transfer valves and fittings, etc., shall be checked regularly for drips or leaks, and shall be maintained and stored properly to prevent spills into state waters, including wetlands.
- 8) Construction monitoring: During and immediately after project construction, the applicant or contractor shall visually monitor the area for distressed or dying fish. If water quality exceedances are observed outside the dilution zone, in-water work shall cease immediately and the applicant or the contractor shall contact Ecology's Southwest Regional Spill Response Office at (360) 407-6300.

**Temporary Modification of Water Quality Standards:**

- 9) Project construction, operation, and maintenance shall be done in compliance with WAC 173-201A. This certification does not authorize a modification of standards above those established in WAC 173-201A.

**Project Mitigation and Monitoring Conditions:**

- 10) Project mitigation shall be constructed and maintained as described in and as referenced in the "Ecosystem Restoration Report and Environmental Assessment" dated July 1999.

**General Conditions:**

For purposes of this Order, the term "Applicant" shall mean the Washington State Department of Fisheries and Wildlife, and its agents, assigns, and contractors.

This certification does not exempt and is provisional upon compliance with other statutes and codes administered by federal, state, and local agencies.

This certification will cease to be valid if the project is constructed and/or operated in a manner not consistent with the project description contained in the Public Notice for certification.

This certification will cease to be valid and the applicant must reapply with an updated application if five years elapse between the date of the issuance of this certification and the beginning of construction and/or discharge for which the federal license or permit is being sought.

This certification will cease to be valid and the applicant must reapply with an updated application if the information contained in the Public Notice is voided by subsequent submittals to the federal agency. Any future action at this project location, emergency or otherwise, which is not defined in the public notice, is not covered by this approval. All future actions shall be coordinated with Ecology for approval prior to implementation of such action.

Water Quality Certification #PL-00-01

January 28, 2000

Page 4

Copies of this Order shall be kept on the job site and readily available for reference by Corps of Engineers personnel, the construction superintendent, construction managers and foremen, and state and local government inspectors.

The Applicant shall provide access to the project site and all mitigation sites upon request by Ecology or WDFW personnel for site inspections, monitoring, necessary data collection, or to ensure that conditions of this Order are being met.

Ecology retains continuing jurisdiction to make modifications hereto through supplemental order, if it appears necessary to further protect the public interest.

Any person who fails to comply with any provision of this Order shall be liable for a penalty of up to ten thousand dollars per violation for each day of continuing noncompliance.

Any person aggrieved by this Order may obtain review thereof by appeal. The applicant can appeal up to 30 days after receipt of the permit, and all others can appeal up to 30 days from the postmarked date of the permit. The appeal must be sent to the Washington Pollution Control Hearings Board, PO Box 40903, Olympia WA 98504-0903. Concurrently, a copy of the appeal must be sent to the Department of Ecology, Enforcement Section, PO Box 47600, Olympia WA 98504-7600. These procedures are consistent with the provisions of Chapter 43.21B RCW and the rules and regulations adopted thereunder.

Dated 1 February 2000 at Lacey, Washington

Gale Blomstrom  
Gale Blomstrom, Section Supervisor  
Shorelands and Environmental Assistance Program  
Department of Ecology - Southwest Regional Office

GB:HP:dj

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## SECTION 01005

### SITE SPECIFIC SUPPLEMENTARY REQUIREMENTS

#### 1. CONDUCT OF WORK:

##### 1.1 COORDINATION AND WORK HOURS

1.1.1 Coordination with using agencies shall be made through the Contracting Officer to assist the Contractor in completing the work with a minimum of interference and inconvenience.

1.1.2 Work hours in the construction area will be restricted to 7:00 a.m. to 9:00 p.m. daily, Monday through Friday, excluding holidays. Requests for alternate work schedules may be considered, but will be approved only by the Contracting Officer. Alternate work schedules will not be approved if a Government quality assurance inspector is not available to be on site full time during all hours outside those previously stated.

##### 1.2 CONTRACTOR SECURITY

The Corps of Engineers will not be responsible for providing security for Contractor-owned/controlled equipment, supplies, or materials. The Contractor shall provide those necessary security measures.

#### 2. PERSONNEL IDENTIFICATION

##### 2.1 EMPLOYEE LISTING

The Contractor shall submit a complete listing of Contractor personnel, including job title and identification credential number, who will be working on the project. This listing shall be updated as needed to insure that the Government has been notified of any changes of Contractor Personnel in advance of new personnel engaging in work on the project. The Government will allow access to the controlled areas of only the Contractor Personnel authorized in advance and included on the employee listing.

##### 2.2 Identification Credentials

Contractor personnel shall either be issued a photo identification card (ID) by the Contractor or agree to provide their individual vehicle driver's license as an appropriate identification credential. In either case, the identification number shall be included on the listing required above. If the Contractor determines to issue ID cards to its employees, the following information shall be included:

Contractor Identification and Card Number Indicating Employees:

- |                     |              |
|---------------------|--------------|
| o Full Name         | o Height     |
| o Current Address   | o Weight     |
| o Birth Date        | o Hair Color |
| o Recent Photograph | o Eye Color  |

## 2.3 Employee Termination

If a Contractor employee resigns or is terminated the Contracting Officer, or designated representative shall be so notified at the earliest opportunity, but in no case later than the start of the succeeding workday.

## 2.4 Access Control

Contractor personnel shall be instructed to present identification credential upon request by proper authority as established by the Contracting Officer.

## 3. UTILITY OUTAGES

Contractor shall coordinate utility outages with the Contracting Officer at least 7 days in advance. Outages shall be kept to a minimum and any one outage shall not last more than 2 hours.

## 4. PROTECTION OF GOVERNMENT PROPERTY

In addition to requirements of the CONTRACT CLAUSES, Contractor shall protect all Government property within the buildings in which he is working, except for such property as is required to be demolished. Property which is to be demolished shall be protected until its scheduled demolition time. Protection shall include, but not be limited to, protection from construction generated dust, debris, water, and vibration.

## 5. GOVERNMENT FIELD OFFICE

The Contractor shall provide a temporary field office building for the exclusive use of Government personnel during the contract period. The building shall be in a location designated by the Contracting Officer. The building shall be mounted on a trailer or skid base and contain 150 feet of floor space. The Government office space may be in the building used for the Contractor's field office but with separate room and access points. The building shall be insulated appropriate to the climate and the Contractor shall furnish and maintain adequate electric lights and wall outlets, heat, air-conditioning, and drinking water (water dispenser) for the building, and shall perform any necessary maintenance of the building. The building shall be furnished with one desk, 5 feet long by 3 feet wide, with a side drawer and a center drawer that can be locked; and a table 3 feet by 4 feet minimum, suitable for laying out full-size contract plans. Two chairs and one stool shall be furnished. A file cabinet with three drawers (letter size width) shall be furnished. The building shall have two windows and shall have a door with a lock set with two keys. Each window shall have not less than 6 square feet of glass area, and the door shall be 2 feet, 8 inches wide by 6 feet, 8 inches high. Telephone service, by a hard line, shall be provided for the duration of time of the contract. The Government will pay for the monthly cellular service fees and long distance calls made by Government personnel. Suitable enclosed sanitary toilet and lavatory facilities shall be furnished in the immediate vicinity of the building and kept clean by the Contractor. The Contractor shall provide weekly room cleaning service and trash removal. The Contractor shall also, at any time it relocates its office facility, relocate the Government field office to a new location, if so requested by the Contracting Officer. Field office building will remain property of the Contractor and shall be removed from site upon completion of project.

END OF SECTION

## SECTION 01025

### MEASUREMENT AND PAYMENT

#### PART 1 GENERAL

##### 1.1 GENERAL

The contract price for each item shall constitute full compensation for furnishing all plant, labor, materials, appurtenances, and incidentals and performing all operations necessary to construct and complete the items in accordance with these specifications and the applicable drawings, including surveying performed by the Contractor. Payment for each item shall be considered as full compensation, notwithstanding that minor features may not be mentioned herein. Work paid for under one item will not be paid for under any other item. No separate payment will be made for the work, services, or operations required by the Contractor, as specified in DIVISION 1, GENERAL REQUIREMENTS, to complete the project in accordance with these specifications; all costs thereof shall be considered as incidental to the work.

##### 1.2 MEASUREMENT

1.2.1 Measurement of the units of work shall be made hereinafter specified. When an item of work is specifically identified for a portion of the work to be paid for as a lump sum then this paragraph shall not apply.

##### 1.2.2 Lineal Measurement

##### 1.2.2.1 H-Piles Furnished to Site

Measurement shall include only the lengths of H-piles actually installed.

##### 1.2.2.1 Pile Driving

Measurement shall be by the vertical linear foot of each driven pile, cut to the final length.

##### 1.2.2.2 Predrilling

Measurement for predrilling a shaft shall be by the vertical linear foot and shall be from the top of the excavated shaft to the final elevation of the bottom of the pile as shown on the drawings. The top of the shaft is defined as the elevation of the subgrade as prepared for placement of precast concrete panels or lagging.

#### 1.3 PAYMENT

##### 1.3.1 ITEM 0001 (BASE ITEM)

Payment will be made at the contract lump sum price for Item No. 0001, All Work for Goldsborough Creek Section 206 Restoration, Except for Items 0002 through 0018, payment of which shall constitute full compensation for Item No. 0001, complete.

### 1.3.2 ITEM 0002 (BASE ITEM)

Payment will be made at the contract lump sum price for Item No. 0002, Mobilization and Demobilization, payment of which shall constitute full compensation for Item No. 0002, complete.

### 1.3.3 ITEM 0003 (BASE ITEM)

Payment will be made at the contract lump sum price for Item No. 0003, All Work for Diversion of Water, payment of which shall constitute full compensation for Item No. 0003, complete, as specified in Section 01560.

### 1.3.4 ITEM 0004 (BASE ITEM)

Payment will be made at the contract lump sum price for Item No. 0004, All Work for Demolition, payment of which shall constitute full compensation for Item No. 0004, complete.

### 1.3.5 ITEM 0005 (BASE ITEM)

Payment will be made at the contract lump sum price for Item No. 0005, All Work for Clearing and Grubbing, payment of which shall constitute full compensation for Item No. 0005, complete.

### 1.3.6 ITEM 0006 (BASE ITEM)

Payment will be made at the contract lump sum price for Item No. 0006, All Earthwork, payment of which shall constitute full compensation for Item No. 0006, complete.

### 1.3.7 ITEM 0007 (BASE ITEM)

Payment will be made at the contract lump sum price for Item No. 0007, All Work for Weir Structures, Except for Item Nos. 0008 and 0009, payment of which shall constitute full compensation for Item No. 0007, complete.

### 1.3.8 ITEM 0008 (BASE ITEM)

Payment will be made at the contract lump sum price for Item No. 0008, All work for Driving Non-Drilled Piles as Shown on Drawings, Plates S2 – S17, payment of which shall constitute full compensation for Item No. 0008, complete, to the depths and dimensions shown on the drawings.

### 1.3.9 ITEM 0009 (BASE ITEM)

Payment will be made at the contract lump sum price for Item No. 0009, All work for Predrilling and Placing Piles as Shown on Drawings, Plates S2 – S17, payment of which shall constitute full compensation for Item No. 0009, complete, including all work required to drill shafts into the "Kitsap Formation" or other hard driving materials to place piles at the depths and dimensions shown on the drawings, and to backfill voids with concrete.

1.3.10 ITEM 0010 (BASE ITEM)

Payment will be made at the contract lump sum price for Item No. 0010, All Work for Bank Protection, Except for Item Nos. 0011, 0012 and 0013, payment of which shall constitute full compensation for Item No. 0010, complete.

1.3.11 ITEM 0011 (BASE ITEM)

Payment will be made at the contract lump sum price for Item No. 0011, Vegetative and Type I Riprap Bank Protection, payment of which shall constitute full compensation for Item No. 0011, complete.

1.3.12 ITEM 0012 (BASE ITEM)

Payment will be made at the contract lump sum price for Item No. 0012, Type II Riprap, payment of which shall constitute full compensation for Item No. 0012, complete, as shown on Plates C-2 through C-15, and specified in Sections 02378, 02380 and 02920.

1.3.13 ITEM 0013 (BASE ITEM)

Payment will be made at the contract lump sum price for Item No. 0013, Type III Riprap, payment of which shall constitute full compensation for Item No. 0013, complete.

1.3.14 ITEM 0014 (BASE ITEM)

Payment will be made at the contract lump sum price for Item No. 0014, All Work for Habitat Features, Except for Item Nos. 0015, 0016 and 0017, payment of which shall constitute full compensation for Item No. 0014, complete.

1.3.15 ITEM 0015 (BASE ITEM)

Payment will be made at the contract lump sum price for Item No. 0015, Rootwads, payment of which shall constitute full compensation for Item No. 0015, complete.

1.3.16 ITEM 0016 (BASE ITEM)

Payment will be made at the contract lump sum price for Item No. 0016, Boulders, payment of which shall constitute full compensation for Item No. 0016, complete.

1.3.17 ITEM 0017 (BASE ITEM)

Payment will be made at the contract lump sum price for Item No. 0017, Stream Cobble, payment of which shall constitute full compensation for Item No. 0017, complete.

1.3.18 ITEM 0018 (BASE ITEM)

Payment will be made at the contract lump sum price for Item No. 0018, All Work for As-Built Drawings; payment of which shall constitute full compensation of Item No. 0018 complete. No partial or total payment will be made for this item until the as-built drawings, both marked up blue prints and electronic

files are fully approved by the Government (A or B action) and all copies of approved drawings and electronic media received by the Government.

### 1.3 PROGRESS PAYMENT INVOICE

Requests for payment shall be submitted in accordance with Federal Acquisition Regulations (FAR) Subpart 32.9, entitled "PROMPT PAYMENT", and Paragraphs 52.232-5 and 52.232-27, entitled "Payments Under Fixed-Price Construction Contracts", and "Prompt Payment for Construction Contracts", respectively. In addition each request shall be submitted in the number of copies and to the designated billing office as shown in the Contract.

PARTS 2 and 3 NOT USED



## PROGRESS PAYMENT INVOICE

See Federal Acquisition Regulations (FAR) 32.900, 52.232-5, & 52.232-27

1. PROJECT AND LOCATION	2. DATE
3. CONTRACTOR NAME AND ADDRESS (Must be the same as in the Contract)	4. CONTRACT NO.  5. INVOICE NO.
6. DESCRIPTION OF WORK	7. PERIOD OF PERFORMANCE  From: To:
8. DISCOUNT TERMS	
9. OFFICIAL TO WHOM PAYMENT IS TO BE FORWARDED Name: Title: Phone: ( ) -	10. OFFICIAL TO BE NOTIFIED OF DEFECTIVE INVOICE Name: Title: Phone ( ) -
<b>11. CERTIFICATION: I hereby certify, to the best of my knowledge and belief, that</b> (1) The amounts requested are only for the performance in accordance with the specifications, terms, and conditions of this contract; (2) Payments to subcontractors and suppliers have been made from previous payments received under the contract, and timely payments will be made from the proceeds of the payment covered by this certification, in accordance with subcontract agreements and the requirements of Chapter 39 of Title 31, United States Code; and (3) This request for progress payment does not include any amounts which the prime contractor intends to withhold or retain from a subcontractor or supplier in accordance with the terms and conditions of the subcontract.	
<div style="display: flex; justify-content: space-between; border-top: 1px solid black; margin-top: 20px;"> <span>(Signature)</span> <span>(Title)</span> <span>(Date)</span> </div>	
12. OTHER INFORMATION OR DOCUMENTATION required by Contract. Provide two (2) copies of each (check and attach if applicable):  <input type="checkbox"/> Updated Progress Chart/Schedule <input type="checkbox"/> Progress Narrative <input type="checkbox"/> Certified Payrolls (submitted weekly) <input type="checkbox"/> Safety Exposure Report <input type="checkbox"/> Updated Submittal \register <input type="checkbox"/> Progress Photos <input type="checkbox"/> Subcontractor/Employee Listings	(FOR GOVERNMENT USE ONLY)  Retainage: ____% Amt.: \$_____  Withholdings: \$ _____  Reason: _____ _____  Following items are current: As-Builts        ____ Yes    ____ No O & M Manuals   ____ Yes    ____ No 1354 Data        ____ Yes    ____ No Submittal Register ____ Yes    ____ No

END OF SECTION

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## SECTION 01035

### MODIFICATION PROCEDURES

#### PART 1 GENERAL

##### 1.1 PROPOSED PROJECT MODIFICATIONS:

Price proposals for proposed modifications shall be submitted in accordance with the requirements of the Contract Clause MODIFICATION PROPOSALS - PRICE BREAKDOWNS. If change order work impacts or delays other unchanged contract work, the costs of such impacts or delays shall be included in the proposals and separately identified. Additional instructions for submitting price proposals can be found in NPSP-415-1-1, INSTRUCTION AND INFORMATION FOR CONTRACTORS, a copy of which will be furnished to the Contractor at the Preconstruction Conference. For information applicable to equipment rates used in contract modifications, refer to 00800 - SPECIAL CLAUSES, clause "EQUIPMENT OWNERSHIP AND OPERATING EXPENSE SCHEDULE".

#### PART 2 PRODUCTS (NOT USED)

#### PART 3 EXECUTION (NOT USED)

END OF SECTION

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## SECTION 01061

### ENVIRONMENTAL PROTECTION

#### PART 1 GENERAL

##### 1.1 SCOPE

This Section covers prevention of environmental pollution and damage as the result of construction operations under this contract. For the purpose of this specification, environmental pollution, and damage is defined as the presence of chemical, physical, or biological elements or agents which adversely affect human health or welfare; unfavorably alter ecological balances of importance to human life; affect other species of importance to man; or degrade the utility of the environment for esthetic, cultural, and/or historical purposes. The control of environment pollution and damage requires consideration of air, water, and land, and includes management of visual esthetics, noise, and solid waste, as well as other pollutants.

##### 1.2 QUALITY CONTROL

The Contractor shall establish and maintain quality control for environmental protection of all items set forth herein. The Contractor shall record any problems in complying with laws, regulations, and ordinances, and corrective action taken.

###### 1.2.1 Subcontractors

Assurance of compliance with this Section by subcontractors will be the responsibility of the Contractor.

##### 1.3 NOTIFICATION

When the Contracting Officer notifies the Contractor in writing of any observed noncompliance with Federal, state, or local laws, regulations, or permits, the Contractor shall, after receipt of such notice, inform the Contracting Officer of proposed corrective action and take such action as may be approved. If the Contractor fails to comply promptly, the Contracting Officer may issue an order stopping all or part of the work until satisfactory corrective action has been taken. No time extensions will be granted or costs or damage allowed to the Contractor for any such suspension.

##### 1.4 PROTECTION OF ENVIRONMENTAL RESOURCES

The environmental resources within the project boundaries and those affected outside the limits of permanent work under this contract shall be protected during the entire period of this contract. The Contractor shall confine his activities to areas defined by the drawings and specifications. Environmental protection shall be as stated in the following subparagraphs, as well as stated in Appendix C to the Washington State Dept. of Ecology Water Quality Certification, attached to Section 01001.

#### 1.4.1 Protection of Land Resources

The Contractor shall not remove, cut, deface, injure, or destroy land resources including trees, shrubs, vines, grasses, topsoil, and land forms without special permission from the Contracting Officer except as otherwise specified or indicated. See Paragraph 1.5 for additional requirements relating to protection of trees during excavation in the vicinity of a tree.

#### 1.4.2 Disposal of Garbage

Garbage shall be placed in containers which are emptied on a regular schedule. All handling and disposal shall be conducted to prevent contamination.

#### 1.4.3 Refuse Disposal and Cleanup

Refuse shall be defined as debris other than such organic materials as brush or tree stumps.

##### 1.4.3.1 Refuse Disposal

The cost of refuse disposal, such as transportation, handling, dumping fees as applicable, and similar cost, shall be included in the contract price. Refuse shall be disposed of off site, in accordance with all local, state, and Federal rules and regulations, at the Contractor's expense.

##### 1.4.3.2 Fire Hazard

Cloths, cotton waste, and other combustible materials that might constitute a fire hazard shall be placed in closed metal containers and placed outside or destroyed at the end of each day.

#### 1.4.4 Restrictions

The Contractor will not be permitted to deposit refuse in existing garbage cans or refuse dumpsters. Cleaners shall not be poured, drained, or washed into plumbing fixtures or sanitary or storm sewers. Debris, dirt, dust, and stains attributable to or resulting from the work effort shall be removed, cleaned, or effaced by the Contractor to the satisfaction of the Contracting Officer prior to acceptance of the job. Refuse shall not be burned. Burning of vegetation or tree stumps will not be allowed unless the worksite is in an area approved for burning.

#### 1.4.5 Disposal of Chemical or Hazardous Waste

Chemical or hazardous waste shall be stored in corrosion-resistant containers, removed from the work area, and disposed of in accordance with Federal, State, and local regulations.

#### 1.4.6 Disposal of Discarded Materials

Discarded materials, other than those which can be included in the solid waste category, shall be handled as directed.

#### 1.4.7 Protection of Water Resources

The Contractor shall keep construction activities under surveillance, management, and control to avoid pollution of surface and ground waters.

#### 1.4.8 Particulates

Dust particles, aerosols, and gaseous byproducts from construction activities, processing, and preparation of materials shall be controlled at all times, including weekends, holidays, and hours when work is not in progress. Hydrocarbons and carbon monoxide emissions from equipment shall be controlled to Federal and state allowable limits at all times.

### 1.5 PROTECTION OF TREES DURING EXCAVATION

Care shall be exercised by the contractor when excavating trenches in the vicinity of trees. Where roots are 51 mm (2 inches) in diameter or greater, the trench shall be excavated by hand and tunneled. When large roots are exposed, they shall be wrapped with a heavy burlap for protection and to prevent drying. Trenches dug by machines adjacent to trees having roots less than 51 mm (2 inches) in diameter shall have the sides hand trimmed making a clean cut of the roots. Trenches having exposed tree roots shall be backfilled within 24 hours unless adequately protected by moist burlap or canvas.

### 1.6 MAINTENANCE OF POLLUTION CONTROL FACILITIES

The Contractor shall maintain all constructed facilities and portable pollution control devices for the duration of the contract or for that length of time construction activities create the particular pollutant.

### 1.7 RESTORATION OF LANDSCAPE (VEGETATION - SUCH AS TREES, PLANTS, AND GRASS) DAMAGE

All landscape features (vegetation - such as trees, plants, and grass) damaged or destroyed during Contractor operations outside and within the work areas shall be restored to a condition similar to that which existed prior to construction activities unless otherwise indicated on the drawings or in the specifications. This restoration shall be done at no additional cost to the Government. If the Contractor fails or refuses to repair the damage promptly, the Contracting Officer may have the necessary work performed and charge the cost to the Contractor.

Trees shall be replaced in kind with a minimum 102 mm (4-inch) caliper nursery stock. Shrubs, vines, and ground cover shall be replaced in kind; size to be approved by the Contracting Officer.

All plant material shall meet specifications outlined in ANSI Z60.1 - current publication, "American Standard for Nursery Stock."

END OF SECTION

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## SECTION 01320

### PROJECT SCHEDULE

#### PART 1 GENERAL

##### 1.1 SUBMITTALS

Government approval is required for submittals with a "GA" designation; submittals having an "FIO" designation are for information only. The following shall be submitted in accordance with Section 01300 SUBMITTALS:

##### SD-07 Schedules

GA Preliminary project schedule, two (2) copies.

GA initial project schedule, two (2) copies  
Activity No. Sort  
Predecessor/successor listing  
Cost Schedule  
Floppy Disk with schedule data in Standard Data Exchange Format (SDEF).  
Activity Code Dictionary.

FIO Periodic schedules updates, monthly updates two (2) copies.  
Floppy Disks with schedule data in Standard Data Exchange Format (SDEF).  
Narrative  
Activity No. Sort  
Cost Schedule  
Cash Flow Report (S-Curve)

##### SD-08 Statements

Qualifications; GA .

Documentation showing qualifications of personnel preparing schedule reports.

##### 1.2 QUALIFICATIONS

The Contractor shall designate an authorized representative who shall be responsible for the preparation of all required project schedule reports. This person shall have previously created and reviewed computerized schedules. Qualifications of this individual shall be submitted to the Contracting Officer for review with the Preliminary Project Schedule submission.

## PART 2 PRODUCTS (Not Applicable)

## PART 3 EXECUTION

### 3.1 GENERAL

Pursuant to the Contract Clause, SCHEDULE FOR CONSTRUCTION CONTRACTS a Project Schedule as described below shall be prepared. The scheduling of construction shall be the responsibility of the Contractor. Contractor management personnel shall actively participate in its development. Subcontractors and suppliers working on the project should also contribute in developing and maintaining an accurate Project Schedule. The approved Project Schedule shall be used to measure the progress of the work, to aid in evaluating time extensions, and to provide the basis of all progress payments.

### 3.2 BASIS FOR PAYMENT

The schedule shall be the basis for measuring Contractor progress. Lack of an approved schedule or scheduling personnel shall result in an inability of the Contracting Officer to evaluate Contractor progress for the purposes of payment. Failure of the Contractor to provide all information, as specified below, shall result in the disapproval of the entire Project Schedule submission and the inability of the Contracting Officer to evaluate Contractor progress for payment purposes. In the case where Project Schedule revisions have been directed by the Contracting Officer and those revisions have not been included in the Project Schedule, then the Contracting Officer may hold retainage up to the maximum allowed by contract, each payment period, until revisions to the Project Schedule have been made.

### 3.3 PROJECT SCHEDULE

The computer software system utilized by the Contractor to produce the Project Schedule shall be capable of providing all requirements of this specification including the SDEF (Standard Data Exchange Format). Failure of the Contractor to meet the requirements of this specification shall result in the disapproval of the schedule. Manual methods used to produce any required information shall require approval by the Contracting Officer.

#### 3.3.1 Use of the Critical Path Method

The Critical Path Method (CPM) of network calculation shall be used to generate the Project Schedule. The Contractor shall provide the Project Schedule in Precedence Diagram Method (PDM)

#### 3.3.2 Level of Detail Required

With the exception of the initial and preliminary schedule submission, the Project Schedule shall include an appropriate level of detail. Failure to develop or update the Project Schedule or provide data to the Contracting Officer at the appropriate level of detail, as specified by the Contracting Officer, shall result in the disapproval of the schedule. The Contracting Officer will use, but is not limited to, the following conditions to determine the appropriate level of detail to be used in the Project Schedule.

#### 3.3.2.1 Activity Durations

Contractor submissions shall be required to follow the direction of the Contracting Officer regarding reasonable activity durations. Reasonable durations are those that allow the progress of activities to be accurately determined between payment periods. A rule of thumb, that the Contractor should use, is that less than 2 percent of all non-procurement activities' Original Durations shall be greater than 20 days.

#### 3.3.2.2 Procurement Activities

Tasks related to the procurement of long lead materials or equipment shall be included as separate activities in the project schedule. Long lead materials and equipment are those materials that have a procurement cycle of over 90 days. Examples of procurement process activities include, but are not limited to: submittals, approvals, procurement, fabrication, delivery, installation, start-up, and testing.

#### 3.3.2.3 Government Activities

Government and other agencies activities that could impact progress shall be shown. These activities include, but are not limited to: approvals, inspections, utility tie-in, Government Furnished Equipment (GFE) and notice to proceed for phasing requirements.

#### 3.3.2.4 Responsibility

All activities shall be identified in the project schedule by the party responsible to perform the work. Responsibility includes, but is not limited to, the subcontracting firm, (at the lowest tier), Contractor work force, or Government agency performing a given task. Activities shall not belong to more than one responsible party. The responsible party for each activity shall be identified by the Responsibility Code.

#### 3.3.2.5 Work Areas

All activities shall be identified in the project schedule by the work area in which the activity occurs. Activities shall not be allowed to cover more than one work area. The work area of each activity shall be identified by the Work Area Code.

#### 3.3.2.6 Modification or Claim Number

Any activity that is added or changed by contract modification or used to justify claimed time shall be identified by a mod or claim code that changed the activity. Activities shall not belong to more than one modification or claim item. The modification or claim number of each activity shall be identified by the Mod or Claim Number. Whenever possible, changes shall be added to the schedule by adding new activities. Existing activities shall not normally be changed to reflect modifications.

#### 3.3.2.7 Bid Item

All activities shall be identified in the project schedule by the Bid Item to which the activity belongs. An activity shall not contain work in more than one bid item. The bid item for each appropriate activity shall be identified by the Bid Item Code.

### 3.3.2.8 Phase of Work

All activities shall be identified in project schedule by phases of work in which the activity occurs. Activities shall not contain work in more than one phase of work. The project phase of each activity shall be by the unique Phase of Work Code.

### 3.3.2.9 Category of Work

All Activities shall be identified in the project schedule according to the category of work which best describes the activity. Category of work refers, but is not limited , to the procurement chain of activities including such items as submittals, approvals, procurement, fabrication, delivery, installation, start-up, and testing. The category of work for each activity shall be identified by the Category of Work Code.

### 3.3.2.10 Feature of Work

All activities shall be identified in the project schedule according to the feature of work to which the activity belongs. Feature of work refers, but is not limited to a work breakdown structure for the project. The feature of work for each activity shall be identified by the Feature of Work Code.

### 3.3.2.11 Critical Activities

The following activities shall be listed as separate line activities on a Contractor's project schedule:

- submission and approval of as-built drawings
- prefinal inspection correction of punchlist from prefinal inspection
- final inspection

## 3.3.3 Scheduled Project Completion

The schedule interval shall extend from notice-to-proceed to the contract completion date.

### 3.3.3.1 Project Start Date

The schedule shall start no earlier than the date that the Notice to Proceed (NTP) was acknowledged. The Contractor shall include as the first activity in the project schedule an activity called "Start Project". The "Start Project" activity shall have: a "ES" constraint, a constraint date equal to the date that the NTP was acknowledged, and a zero day duration.

### 3.3.3.2 Constraint of Last Activity

Completion of the last activity in the schedule shall be constrained by the contract completion date. Calculation on project updates shall be such that if the early finish of the last activity falls after the contract completion date, then the float calculation shall reflect a negative float on the critical path. The Contractor shall include as the last activity in the project schedule an activity call "End Project". The "End Project" activity shall have: a "LF" constraint, a constraint date equal to the completion date for the project, and a zero day duration.

### 3.3.3.3 Early Project Completion

In the event the project schedule shows completion of the project prior to the contract completion date, the Contractor shall identify those activities that have been accelerated and/or those activities that are scheduled in parallel to support the Contractor's "early" completion. Contractor shall specifically address each of the activities noted at every project schedule update period to assist the Contracting Officer to evaluate the Contractor's ability to actually complete prior to the contract period.

#### 3.3.4.1 Start Phase

The Contractor shall include as the first activity for a project phase an activity called "Start Phase X" where "X" refers to the phase of work. "Start Phase X" activity shall have an "ES" constraint date equal to the date on which the NTP was acknowledged, and a zero day duration.

#### 3.3.4.2 End Phase

The Contractor shall include as the last activity in a project phase an activity called "End Phase X" where "X" refers to the phase of work. The "End Phase X" activity shall have an "LF" constraint date equal to the completion date for the project, and a zero day duration.

#### 3.3.4.3 Phase X

The Contractor shall include a hammock type activity for each project phase called "Phase X" where "X" refers to the phase of work. The "Phase X" activity shall be logically tied to the earliest and latest activities in the phase.

### 3.3.4 Interim Completion Dates

Contractually specified interim completion dates shall also be constrained to show negative float if the early finish date of the last activity in that phase falls after the interim completion date.

### 3.3.5 Default Progress Data Disallowed

Actual Start and Finish dates shall not be automatically updated by default mechanisms that may be included in CPM scheduling software systems. Actual Start and Finish dates on the CPM schedule shall match those dates provided from Contractor Quality Control Reports. Failure of the Contractor to document the Actual Start and Finish dates on the Daily Quality Control report for every in progress or completed activity and ensure that the data contained on the Daily Quality Control reports is the sole basis for schedule updating shall result in the disapproval of the Contractor's schedule and the inability of the Contracting Officer to evaluate Contractor progress for payment purposes.

### 3.3.6 Out-of-Sequence Progress

Activities that have posted progress without predecessors being completed (Out-of-Sequence Progress) shall be allowed only by the case-by-case approval of the Contracting Officer. The Contracting Officer may direct that changes in schedule logic be made to correct any or all out-of-sequence work.

### 3.3.7 Negative Lags

Lag durations contained in the project schedule shall not have a negative value.

### 3.4 PROJECT SCHEDULE SUBMISSIONS

The Contractor shall provide the submissions as described below. The data disk, reports, and network diagrams required for each submission are contained in paragraph SUBMISSION REQUIREMENTS.

#### 3.4.1 Preliminary Project Schedule Submission

The Preliminary Project Schedule, defining the Contractor's planned operations for the first 60 calendar days shall be submitted for approval within 10 calendar days after Notice to Proceed is acknowledged. The approved preliminary schedule shall be used for payment purposes not to exceed 60 calendar days after Notice to Proceed.

#### 3.4.2 Initial Project Schedule Submission

The Initial Project Schedule shall be submitted for approval within 40 calendar days after Notice to Proceed. The schedule shall provide a reasonable sequence of activities which represent work through the entire project and shall be at a reasonable level of detail.

#### 3.4.3 Periodic Schedule Updates

Based on the result of progress meetings, specified in "Periodic Progress Meetings," the Contractor shall submit periodic schedule updates. These submissions shall enable the Contracting Officer or to assess Contractor's progress. If the Contractor fails or refuses to furnish the information and project schedule data, which in the judgment of the Contracting Officer or authorized representative, is necessary for verifying the contractor's progress, the Contractor shall be deemed not to have provided an estimate upon which progress payment may be made.

#### 3.4.4 Standard Activity Coding Dictionary

The Contractor shall submit, with the Initial Project Schedule, a coding scheme that shall be used throughout the project for all activity codes contained in the schedule. The coding scheme submitted shall list the values for each activity code category and translate those values into project specific designations. For example, a Responsibility Code Value, "ELE", may be identified as "Electrical Subcontractor." Activity code values shall represent the same information throughout the duration of the contract. Once approved with the Initial Project Schedule submission, changes to the activity coding scheme must be approved by the Contracting Officer.

### 3.5 SUBMISSION REQUIREMENTS

The as noted in paragraph 1.1 items shall be submitted by the Contractor for the preliminary submission, initial submission, and every periodic project schedule update throughout the life of the project:

#### 3.5.1 Data Disks

Two data disks containing the project schedule shall be provided. Data on the disks adhere to the SDEF format specified in ER 1-1-11, Appendix A.

#### 3.5.1.1 File Medium

Required data shall be submitted on 89 mm (3.5 inch) disks, formatted to hold 1.44 MB of data.

#### 3.5.1.2 Disk Label

A permanent exterior label shall be affixed to each disk submitted. The label shall indicate the type of schedule (Initial, Update, or Change), full contract number, project name, project location, data date, name and telephone number or person responsible for the schedule, and the version used to prepare the C.P.M.

#### 3.5.1.3 File Name

Each file submitted shall have a name related to either the schedule data date, project name, or contract number. The Contractor shall develop a naming convention that will ensure that the names of the files submitted are unique. The Contractor shall submit the file naming convention to the Contracting Officer for approval.

#### 3.5.2 Narrative Report

A Narrative Report shall be provided with each update of the project schedule. This report shall be provided as the basis of the Contractor's progress payment request. The Narrative Report shall include: a description of activities along the critical path, a description of current and anticipated problem areas or delaying factors and their impact, and an explanation of corrective actions taken or required to be taken. The narrative report is expected to relay to the Government, the Contractor's thorough analysis of the schedule output and its plans to compensate for any problems, either current or potential, which are revealed through that analysis.

#### 3.5.3 Approved Changes Verification

Only project schedule changes that have been previously approved by the Contracting Officer shall be included in the schedule submission. The Narrative Report shall specifically reference, on an activity by activity basis, all changes made since the previous period and relate each change to documented, approved schedule changes.

#### 3.5.4 Schedule Reports

The format for each activity for the schedule reports listed below shall contain: Activity Numbers, Activity Description, Original Duration, Remaining Duration, Early Start Date, Early Finish Date, Late Start Date, Late Finish Date, Total Float. Actual Start and Actual Finish Dates shall be printed for those activities in-progress or completed.

##### 3.5.4.1 Activity Report

A list of all activities sorted according to activity number. For completed activities the Actual Start Date shall be used as the secondary sort.

#### 3.5.4.2 Logic Report

A list of Preceding and Succeeding activities for every activity in ascending order by activity number and then sorted according to Early Start Date. For completed activities the Actual Start Date shall be used as the secondary sort. Preceding and succeeding activities shall include all information listed above in paragraph Schedule Reports. A blank line shall be left between each activity grouping.

#### 3.5.4.3 Total Float Report

A list of all activities sorted in ascending order of total float. Activities which have the same amount of total float shall be listed in ascending order of Early Start Dates. Completed activities shall not be shown on this report.

#### 3.5.4.4 Earnings Report

A compilation of the Contractor's Total Earnings on the project from the Notice to Proceed until the most recent Monthly Progress Meeting. This report shall reflect the Earnings of specific activities based on the agreements made in the field and approved between the Contractor and Contracting Officer at the most recent Monthly Progress Meeting. Provided that the Contractor has provided a complete schedule update, this report shall serve as the basis of determining Contractor Payment. Activities shall be grouped by bid item and sorted by activity numbers. This report shall: sum all activities in a bid item and provide a bid item percent; complete and sum all bid items to provide a total project percent complete. The printed report shall contain, for each activity: Activity Number, Activity Description, Original Budgeted Amount, Total Quantity, Quantity to Date, Percent Complete (based on cost), Earnings to Date.

#### 3.5.4.5 Cash Flow Report

A report showing scheduled cost of work-in-place by week (tabular report) and a cash flow curve by week (S-curve plot), both based on early dates.

#### 3.5.5 Network Diagram

The time scaled network diagram shall be required on the initial schedule submission and on quarterly update submissions. The network diagram shall depict and display the order and interdependence of activities and the sequence in which the work is to be accomplished. The Contracting Officer will use, but is not limited to, the following conditions to review compliance with this paragraph:

##### 3.5.5.1 Continuous Flow

Diagrams shall show a continuous flow from left to right with no arrows from right to left. The activity or event number, description, duration, and estimated earned value shall be shown on the diagram.

##### 3.5.5.2 Project Milestone Dates

Dates shall be shown on the diagram for start of project, any contract required interim completion dates, and contract completion dates.



### 3.5.5.3 Critical Path

The critical path shall be clearly shown.

### 3.5.5.4 Banding

Activities shall be grouped to assist in the understanding of the activity sequence. Typically, this flow will group activities by category of work, work area and/or responsibility.

### 3.5.5.5 S-Curves

Earnings curves shall be provided showing projected early and late earnings and earnings to date.

## 3.6 PERIODIC PROGRESS MEETINGS

Progress meetings to discuss payment shall include a monthly on-site meeting or other regular intervals mutually agreed to at the preconstruction conference. During this meeting the Contractor will describe, on an activity by activity basis, all proposed revisions and adjustments to the project schedule required to reflect the current status of the project. The Contracting Officer will approve activity progress, proposed revisions, and adjustments as appropriate.

### 3.6.1 Meeting Attendance

The Contractor's Project Manager and Scheduler shall attend the regular progress meeting.

### 3.6.2 Update Submission Following Progress Meeting

A complete update of the project schedule containing all approved progress, revisions, and adjustments, based on the regular progress meeting, shall be submitted not later than 4 working days after the monthly progress meeting.

### 3.6.3 Progress Meeting Contents

Update information, including Actual Start Dates, Actual Finish Dates, Remaining Durations, and Cost to Date shall be subject to the approval of the Contracting Officer. The following minimum set of items which the Contractor shall address, on an activity by activity basis, during each progress meeting.

#### 3.6.3.1 Start and Finish Dates

The Actual Start and Actual Finish dates for each activity currently in-progress or completed activities.

#### 3.6.3.2 Time Completion

The estimated Remaining Duration for each activity in-progress. Time-based progress calculations must be based on Remaining Duration for each activity.

### 3.6.3.3 Cost Completion

The earnings for each activity started. Payment shall be based on earnings for each in-progress or completed activity. Payment for individual activities shall not be made for work that contains quality defects. A portion of the overall project amount may be retained based on delays of activities.

### 3.6.3.4 Logic Changes

All logic changes pertaining to Notice to Proceed on change orders, change orders to be incorporated into the schedule, contractor proposed changes in work sequence, corrections to schedule logic for out-of-sequence progress, lag durations, and other changes that have been made pursuant to contract provisions shall be specifically identified and discussed.

### 3.6.3.5 Other Changes

Other changes required due to delays in completion of any activity or group of activities are those delays beyond the Contractors control such as strikes and unusual weather. Also included are delays encountered due to submittals, Government Activities, deliveries or work stoppage which makes re-planning the work necessary, and when the schedule does not represent the actual prosecution and progress of the work.

## 3.7 REQUESTS FOR TIME EXTENSIONS

In the event the Contractor requests an extension of the contract completion date, he shall furnish such justification, project schedule data and supporting evidence as the Contracting Officer may deem necessary for a determination as to whether or not the Contractor is entitled to an extension of time under the provisions of the contract. Submission of proof of delay, based on revised activity logic, duration, and costs (updated to the specific date that the delay occurred) is obligatory to any approvals.

### 3.7.1 Justification of Delay

The project schedule must clearly display that the Contractor has used, in full, all the float time available for the work involved with this request. The Contracting Officer's determination as to the number of allowable days of contract extension, shall be based upon the project schedule updates in effect for the time period in question and other factual information. Actual delays that are found to be caused by the Contractor's own actions, which result in the extension of the schedule, shall not be a cause for a time extension to the contract completion date.

### 3.7.2 Submission Requirements

The Contractor shall submit a justification for each request for a change in the contract completion date of under two weeks based upon the most recent schedule update at the time of the Notice to Proceed or constructive direction issued for the change. Such a request shall be in accordance with the requirements of other appropriate Contract Clauses and shall include, as a minimum:

- a. A list of affected activities, with their associated project schedule activity number.
- b. A brief explanation of the causes of the change.

- c. An analysis of the overall impact of the changes proposed.
- d. A sub-network of the affected area.

Activities impacted in each justification for change shall be identified by a unique activity code contained in the required data file.

### 3.7.3 Additional Submission Requirements

For any request for time extension for over 2 weeks, the Contracting Officer may request an interim update with revised activities for a specific change request. The Contractor shall provide this disk within 4 days of the Contracting Officer's request.

## 3.8 DIRECTED CHANGES

If Notice to Proceed (NTP) is issued for changes prior to settlement of price and/or time, the Contractor shall submit proposed schedule revisions to the Contracting Officer within 2 weeks of the NTP being issued. The proposed revisions to the schedule will be approved by the Contracting Officer prior to inclusion of those changes within the project schedule. If the Contractor fails to submit the proposed revisions, the Contracting Officer may furnish the Contractor suggested revisions to the project schedule. The Contractor shall include these revisions in the project schedule until the Contractor submits revisions, and final changes and impacts have been negotiated. If the Contractor has any objections to the revisions furnished by the Contracting Officer, then the Contractor shall advise the Contracting Officer within 2 weeks of receipt of the revisions. Regardless of the objections, the Contractor will continue to update their schedule with the Contracting Officer's revisions until a mutual agreement in the revisions may be made. If the Contractor fails to submit alternative revisions within 2 weeks of receipt of the Contracting Officer's proposed revisions, the Contractor will be deemed to have concurred with the Contracting Officer's proposed revisions. The proposed revisions will then be the basis for an equitable adjustment for performance of the work.

## 3.9 OWNERSHIP OF FLOAT

Float available in the schedule, at any time, shall not be considered for the exclusive use of either the Government or the Contractor.

## 3.10 NAS DATA

The Contractor shall provide the Government with the means to electronically transfer all required NAS data into the Resident Management System (RMS) program using the Standard Data Exchange Format (SDEF). The Contractor may use network analysis software different from that used by the Contracting Officer in the Resident Office, however, the Contractor shall also furnish the following:

NAS data that complies with the Standard Data Exchange Format (SDEF). This is a standard ASCII format for exchanging scheduling data and is compatible with our resident management system. Many software developers provide the capability to convert and export schedule data to the SDEF at no additional cost. The SDEF specifications are in a separate publication, available from the Internet [WWW.CECER.AARMY.MIL/PL/SDEF](http://WWW.CECER.AARMY.MIL/PL/SDEF).

END OF SECTION

## SECTION 01330

### SUBMITTAL PROCEDURES

#### PART 1 GENERAL

##### 1.1 CONTROL AND SCHEDULING OF SUBMITTALS

###### 1.1.1 Submittal Coordination Meeting

After the preconstruction conference and before any submittals are sent to the Contracting Officer's Representative (COR), the Contractor shall meet with the COR and provide and further develop an approved preliminary submittal register, ENG Form 4288. During the meeting all required items will be identified and grouped into three categories:

- Government Approved (GA)

Government approval is required for extensions of design, critical materials, variations/deviations, an "or equal" decision, equipment whose compatibility with the entire system must be checked, architectural items such as Color Charts/Patterns/Textures, and other items as designated by the COR. Within the terms of the Contract Clause entitled "Specifications and Drawings for Construction," these submittals will be acted on as "shop drawings."

- For Information Only (FIO)

Submittals not requiring Government approval will be for information only. These are items such as Installation Procedures, Certificates of compliance, Samples, Qualifications, etc. Within the terms of the Contract Clause entitled "Specifications and Drawings for Construction," these submittals will not be acted on as "shop drawings."

Those items that can be visually inspected by the Contractor's Quality Control Representative (CQC) on site or are provided to the Government other than with an ENG Form 4025: The items that fall into this category shall remain on the register but shall not be submitted to the COR. For these items, the "Classification" column on the submittal register shall remain blank.

###### 1.1.2 Final Submittal Register

The final submittal register shall be coordinated with the progress schedule and submitted within [40] days of Notice to Proceed. In preparing the final document, adequate time (minimum of 30 days) shall be allowed for review and approval, and possible resubmittal of each item on the register.

###### 1.1.3 Submittal Register Updates

The Contractor's quality control representative shall review the listing at least every 30 days and take appropriate action to maintain an effective system. Copies of updated or corrected listings shall be submitted to the COR at least every 30 days in the quantity specified.

## 1.2 SUBMITTAL TYPES

Throughout these specifications submittals may be identified with the prefix "SD" (submittal data) followed by a number (category, i.e., data, drawings, reports, etc.). This is for bookkeeping and record sorting in the system:

### SD-01 Data

Submittals which provide calculations, descriptions, or documentation regarding the work.

### SD-04 Drawings

Submittals which graphically show relationship of various components of the work, schematic diagrams of systems, details of fabrication, layouts of particular elements, connections, and other relational aspects of the work.

### SD-06 Instructions

Preprinted material describing installation of a product, system or material, including special notices and material safety data sheets, if any, concerning impedances, hazards, and safety precautions.

### SD-07 Schedules

Tabular lists showing location, features, or other pertinent information regarding products, materials, equipment, or components to be used in the work.

### SD-08 Statements

A document, required of the Contractor, or through the Contractor from a subcontractor, supplier, installer, or manufacturer to confirm the quality or orderly progression of a portion of the work by documenting procedures, acceptability of methods or personnel, qualifications, or other quality verifications.

### SD-09 Reports

Reports of inspections or tests, including analyses and interpretation of test results. Each report shall be properly identified. Test methods used shall be identified and test results shall be recorded.

### SD-13 Certificates

Statement signed by an official authorized to certify on behalf of the manufacturer that a product, system or material meets specified requirements. The statement must be dated after the award of this contract and state the Contractor's name and address, project and location, and list specific requirements which are being certified.

### SD-14 Samples

Fabricated and/or unfabricated physical examples of materials, products, and/or units of work as complete units or as portions of units.

### SD-18 Records

Documentation to record compliance with technical or administrative requirements.

### SD-19 Operation and Maintenance Manuals

Data which forms a part of an operation and maintenance manual.

Submittals required by the Contract Clauses and other non-technical parts of the contract are not necessarily included in this section. These type of submittals can be added to the register before or during the submittal coordination meeting.

## 1.3 APPROVED SUBMITTALS

The approval of submittals by the COR shall not be construed as a complete check, but will indicate only that the general method of construction, materials, detailing and other information are satisfactory. Approval will not relieve the Contractor of the responsibility for any error which may exist. The Contractor, under the CQC requirements of this contract, is responsible for the dimensions and design of adequate connections, details, and satisfactory construction of all work. After submittals have been approved by the COR, no resubmittal for the purpose of substituting materials or equipment will be given consideration.

## 1.4 DISAPPROVED SUBMITTALS

The Contractor shall make all corrections required by the COR and promptly furnish a corrected submittal in the format and number of copies specified for the initial submittal. If the Contractor considers any correction indicated on the submittals to constitute a change to the contract, written notice, as required under the Contract Clause entitled "Changes," shall be given to the COR.

## 1.5 PAYMENT

Separate payment will not be made for submittals, and all costs associated therein shall be included in the applicable unit prices or lump sum prices contained in the schedule. Payment will not be made for any material or equipment which does not comply with contract requirements.

## PART 2 PRODUCTS (Not Applicable)

## PART 3 EXECUTION

### 3.1 GENERAL

Prior to submittal, all items shall be checked and approved by the Contractor's CQC and each item of the submittal shall be stamped, signed, and dated. Each respective transmittal form (ENG Form 4025) shall be signed and dated by the CQC certifying that the accompanying submittal complies with the contract requirements. This procedure applies to all submittals. Submittals shall include items such as: Contractor's, manufacturer's, or fabricator's drawings; descriptive literature including, but not limited to, catalog cuts, diagrams; operating charts or curves; test reports; test cylinders; samples; O&M manuals including parts lists; certifications; warranties and other such required items. Units of weights and measures used on all submittals shall be the same as the contract drawings. Each submittal shall be

complete and in sufficient detail to allow ready determination of compliance with contract requirements. GA submittals shall be scheduled and made prior to the acquisition of the material or equipment covered thereby. The COR may request submittals in addition to those listed when deemed necessary to adequately describe the work covered in the respective sections. The Contractor shall maintain a complete and up-to-date file of all submittals/items on site for use by both the Contractor and the Government.

### 3.2 SUBMITTAL REGISTER (ENG Form 4288)

The submittal register - ENG Form 4288 – for Divisions 1 through 16 shall be developed by the Contractor prior to the submittal coordination meeting and list each item of equipment and material for which submittals are required in the Technical Specifications. (See paragraph SUBMITTALS at the beginning of each specification section. A blank form ENG 4288 are attached at the end of this specification section.) The Contractor shall approve all items listed on the submittal register. During the submittal coordination meeting, a preliminary submittal register will be created by annotating this Form 4288. When the final submittal register is submitted for approval, the Contractor shall complete the column entitled “Item No.” and all data under “Contractor Schedule Dates” and return five completed copies to the COR for approval. The Contractor shall review the list to ensure its completeness and may expand general category listings to show individual entries for each item. The numbers in column “Item No.” are to be assigned sequentially starting with "1" for each specification section. DO NOT preassign transmittal numbers when preparing the submittal register. When a conflict exists between the submittal register and a submittal requirement in the technical sections, other than those submittals referenced in Paragraph 3.9: Field Test Reports, the approved submittal register shall govern. The preliminary, and then the final approved submittal register, will become the scheduling documents and will be updated monthly and used to control submittals throughout the life of the contract. Names and titles of individuals authorized by the Contractor to approve shop drawings shall be submitted to COR with the final 4288 form. Supplier or subcontractors certifications are not acceptable as meeting this requirement.

### 3.3 SCHEDULING

Submittals covering component items forming a system, or items that are interrelated, shall be coordinated and submitted concurrently. Certifications shall be submitted together with other pertinent information and/or drawings. Additional processing time beyond 30 days, or number of copies, may be shown by the COR on the submittal register attached in the “Remarks” column, or may be added by the COR during the coordination meeting. No delays damages or time extensions will be allowed for time lost due to the Contractor not properly scheduling and providing submittals.

### 3.4 TRANSMITTAL FORM (ENG Form 4025)

Transmittal Form 4025 (sample at end of this section) shall be used for submitting both GA and FIO submittals in accordance with the instructions on the reverse side of the form. Transmittal numbers shall be assigned sequentially. Electronic generated 4025 forms shall be printed on carbonless paper and be a reasonable facsimile of the original 4025. If electronic forms are not used, the original 4025 forms shall be used (do not photo copy) and will be furnished by the COR. These forms shall be filled in completely prior to submittal. Special care shall be exercised to ensure proper listing of the specification paragraph and/or sheet number of the contract drawings pertinent to the data submitted for each item.. Each submittal item shall be listed separately on the form, naming subcontractor, supplier, or manufacturer, applicable specification paragraph number(s), drawing/sheet number, pay item number, and any other information



needed to identify the item, define its use, and locate it in the work. One or more 4025 forms may be used per specification section, however, DO NOT include more than one specification section per transmittal.

### 3.5 CROSS-REFERENCE (ENG FORM 4288/ENG FORM 4025)

To provide a cross-reference between the approved submittal register and transmittal forms, the Contractor shall record the "transmittal numbers" assigned when submitting items in column "Transmittal No." of the ENG FORM 4288. The item numbers in column "Item No." of submittal register shall correspond to the item numbers on ENG Form 4025.

### 3.6 SUBMITTAL PROCEDURE

#### 3.6.1 General

Shop drawings with 4025 forms shall be submitted in the number of copies specified in subparagraphs "Government Approved Submittals" and "Information Only Submittals," or as indicated on the submittal register in the "Remarks" column. Submit a complete collated "reviewers copy" with one 4025 form and attachments (not originals). The remaining copies (4 for GA, 2 for FIO) of 4025 forms and attachments shall not be collated. This would not apply to a series of drawings.

#### 3.6.2 Approval of Submittals by the Contractor

Before submittal to the COR, the Contractor shall review and correct shop drawings prepared by subcontractors, suppliers, and itself, for completeness and compliance with plans and specifications. The Contractor shall not use red markings for correcting material to be submitted. Red markings are reserved for COR's use. Approval by the Contractor shall be indicated on each shop drawing by an approval stamp containing information as shown in this section. Submittals not conforming to the requirements of this section will be returned to the Contractor for correction and resubmittal.

#### 3.6.3 Variations

For submittals which include proposed variations requested by the Contractor, column "h" of ENG Form 4025 shall be checked and the submittal shall be classified as GA, and submitted accordingly. The Contractor shall set forth in writing the justification for any variations and annotate such variations on the transmittal form in the REMARKS block. Variations are not approved unless there is an advantage to the Government. The Government reserves the right to rescind inadvertent approval of submittals containing unnoted variations.

#### 3.6.4 Drawings

Each drawing shall be not larger than A1 size (not more than 28 inches high by 40 inches wide), with a title block in lower right hand corner and a 75 mm by 100 mm (3 by 4 inch) clear area adjacent. The title block shall contain the subcontractor's or fabricator's name, contract number, description of item(s), bid item number, and a revision block. Provide a blank margin of 20 mm (3/4 inch) at bottom, 50 mm (2 inches) at left, and 10 mm (1/2 inch) at top and right. Where drawings are submitted for assemblies of more than one piece of equipment or systems of components dependent on each other for compatible characteristics, complete information shall be submitted on all such related components at the same time. The Contractor shall ensure that information is complete and that sequence of drawing submittal is such that all information is available for reviewing each drawing. Drawings for all items and equipment, of

special manufacture or fabrication, shall consist of complete assembly and detail drawings. All revisions after initial submittal shall be shown by number, date, and subject in revision block.

#### 3.6.4.1 Submittals Containing Drawings Larger than A3 size, (11 inch by 17 inch)

For GA submittals containing drawings larger than 11 inch by 17 inch, one reproducible and one blue line copy will be required to be submitted with five copies of the ENG Form 4025. The marked-up reproducible (and/or any review comments contained on the page-size comment sheet(s) at the Government's option) will be returned to the Contractor upon review. The Contractor shall provide three copies of blue line drawings (generated from the reviewed reproducible) to the Government within 10 days of Contractor's receipt of the reviewed reproducible. The Contractor shall not incorporate approved work into the project until the Government has received the three blue line copies. The Contractor shall use the marked-up reproducible to make any additional copies as needed. For FIO submittals, one reproducible and two blue line copies shall be submitted with the appropriate number of copies of ENG Form 4025.

#### 3.6.5 Printed Material

All requirements for shop drawings shall apply to catalog cuts, illustrations, printed specifications, or other data submitted, except that the 75 mm by 100 mm (3 inch by 4 inch) clear area adjacent to the title block is not mandatory. Inapplicable portions shall be marked out and applicable items such as model numbers, sizes, and accessories shall be indicated by arrow or highlighted.

### 3.7 SAMPLES REQUIRING LABORATORY ANALYSIS

See Section 01451 CONTRACTOR QUALITY CONTROL for procedures and address for samples requiring Government testing.

### 3.8 SAMPLES REQUIRING VISUAL INSPECTION

Samples requiring only physical inspection for appearance and suitability shall be coordinated with the on-site Government quality assurance representative (QAR).

### 3.9 FIELD TEST REPORTS

Routine tests such as soil density, concrete deliveries, repetitive pressure testing shall be delivered to the QAR with the daily Quality Control reports. See SECTION 01451 CONTRACTOR QUALITY CONTROL.

### 3.10 CONTROL OF SUBMITTALS

The Contractor shall carefully control his procurement operations to ensure that each individual submittal is made on or before the Contractor scheduled submittal date shown on the approved "Submittal Register."

### 3.11 GOVERNMENT APPROVED SUBMITTALS (GA)

The Contractor shall submit 5 copies of GA submittals with 5 corresponding 4025 forms. Upon completion of GA submittal review, copies as specified below will be marked with an action code, dated, and returned to the Contractor. See "Drawings" above for special instructions if drawings larger than size A3 (11 inch by 17 inch) are used.

### 3.11.1 Processing of GA Submittals

Submittals will be reviewed and processed as follows:

- a. Approved as Submitted (Action Code "A"): Shop drawings which can be approved without correction will be stamped "Approved" and two copies will be returned to the Contractor. No resubmittal required.
- b. Approved Except as Noted (Action Code "B"): Shop drawings which have only minor discrepancies will be annotated in red to indicate necessary corrections. Marked material will be stamped "Approved Except as Noted" and two copies returned to the Contractor for correction. No resubmittal required.
- c. Approved Except as Noted (Action Code "C"): Shop drawings which are incomplete or require more than minor corrections will be annotated in red to indicate necessary corrections. Marked material will be stamped "Approved Except as Noted - Resubmission Required" and two copies returned to the Contractor for correction. Resubmittal of only those items needing correction required.
- d. Disapproved (Action Code "E"): Shop drawings which are fundamentally in error, cover wrong equipment or construction, or require extensive corrections, will be returned to the Contractor stamped "Disapproved." An explanation will be furnished on the submitted material or on ENG Form 4025 indicating reason for disapproval. Complete resubmittal required.
- e. Resubmittal will not be required for shop drawings stamped "A" or "B" unless subsequent changes are made by Contractor or a contract modification. For shop drawings stamped "C" or "E," Contractor shall make corrections required, note any changes by dating the revisions to correspond with the change request date, and promptly resubmit the corrected material. Resubmittals shall be associated with the "parent" by use of sequential alpha characters (for example, resubmittal of transmittal 8 will be 8A, 8B, etc). Government costs incurred after the first resubmittal may be charged to the Contractor.

### 3.12 INFORMATION ONLY SUBMITTALS (FIO)

The Contractor shall submit three copies of data and four copies of ENG Form 4025. FIO submittals will not be returned. Government approval is not required on FIO submittals. These submittals will be used for information purposes. The Government reserves the right to require the Contractor to resubmit any item found not to comply with the Contract. This does not relieve the Contractor from the obligation to furnish material conforming to the plans and specifications and will not prevent the COR from requiring removal and replacement if nonconforming material is incorporated in the work. This does not relieve the Contractor of the requirement to furnish samples for testing by the Government laboratory or check testing by the Government in those instances where the technical specifications so prescribe.

#### 3.12.1 Processing of FIO Submittals

FIO submittals shall be submitted prior to delivery of the material or equipment to the job site. ENG Form 4025 shall be marked with the words "contractor approved - information copy only" in the REMARKS block of the form. Submittals will be monitored and spot checks made. When such checks indicate noncompliance, the Contractor will be notified by the same method used for GA submittals. Resubmittal of nonconforming FIO submittals shall be reclassified GA and shall be in five copies.

### 3.13 CONTRACTOR APPROVAL STAMP

The stamp used by the Contractor on the submittal data to certify that the submittal meets contract requirements shall be similar to the following:

CONTRACTOR:
CONTRACT NUMBER
TRANSMITTAL NUMBER _____
ITEM NUMBER _____
SPECIFICATION SECTION _____
PARAGRAPH NUMBER _____
_____ APPROVED AS SUBMITTED
_____ APPROVED WITH CORRECTIONS AS NOTED
SIGNATURE: _____
TITLE: _____
DATE _____

CONTRACTORS REVIEW STAMP

MAXIMUM SIZE:

3 INCHES BY 3 INCHES



# INSTRUCTIONS

- Section I will be initiated by the Contractor in the required number of copies.
- Each transmittal shall be numbered consecutively in the space provided for "Transmittal No.". This number, in addition to the contract number, will form a serial number for identifying each submittal. For new submittals or resubmittals mark the appropriate box; on resubmittals, insert transmittal number of last submission as well as the new submittal number.
- The "Item No." will be the same "Item No." as indicated on ENG FORM 4288-R for each entry on this form.
- Submittals requiring expeditious handling will be submitted on a separate form.
- Separate transmittal form will be used for submittals under separate sections of the specifications.
- A check shall be placed in the "Variation" column when a submittal is not in accordance with the plans and specifications--also, a written statement to that effect shall be included in the space provided for "Remarks".
- Form is self-transmittal, letter of transmittal is not required.
- When a sample of material or Manufacturer's Certificate of Compliance is transmitted, indicate "Sample" or "Certificate" in column c, Section I.
- U.S. Army Corps of Engineers approving authority will assign action codes as indicated below in space provided in Section I, column i to each item submitted. In addition they will ensure enclosures are indicated and attached to the form prior to return to the contractor. The Contractor will assign action codes as indicated below in Section I, column g, to each item submitted.

## THE FOLLOWING ACTION CODES ARE GIVEN TO ITEMS SUBMITTED

- |      |  |       |   |
|------|--|-------|---|
| A -- | Approved as submitted.   | E --  | Disapproved (See attached).   |
| B -- | Approved, except as noted on drawings.   | F --  | Receipt acknowledged.   |
| C -- | Approved, except as noted on drawings.<br>Refer to attached sheet resubmission required. | FX -- | Receipt acknowledged, does not comply<br>as noted with contract requirements. |
| D -- | Will be returned by separate correspondence.   | G --  | Other (Specify)   |

- Approval of items does not relieve the contractor from complying with all the requirements of the contract plans and specifications.

(Reverse of ENG Form 4025-R)



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## SECTION 01451

### CONTRACTOR QUALITY CONTROL

#### PART 1 GENERAL

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

##### AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM D 3740	(1999b) Minimum Requirements for Agencies Engaged in the Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction
ASTM E 329	(1998a) Agencies Engaged in the Testing and/or Inspection of Materials Used in Construction

#### 1.2 PAYMENT

Separate payment will not be made for providing and maintaining an effective Quality Control program, and all costs associated therewith shall be included in the applicable unit prices or lump-sum prices contained in the Bidding Schedule.

#### 1.3 LABORATORY VALIDATION

The testing laboratory shall be validated by Corps of Engineers Material Testing Center (MTC) for all tests required by contract. See paragraph 3.7 TESTS.

#### PART 2 PRODUCTS (NOT APPLICABLE)

#### PART 3 EXECUTION

##### 3.1 GENERAL REQUIREMENTS

The Contractor is responsible for quality control and shall establish and maintain an effective quality control system in compliance with the Contract Clause titled "Inspection of Construction." The quality control system shall consist of plans, procedures, and organization necessary to produce an end product which complies with the contract requirements. The system shall cover all construction operations, both onsite and offsite, and shall be keyed to the proposed construction sequence. The site project superintendent will be held responsible for the quality of work on the job and is subject to removal by the Contracting Officer for non-compliance with quality requirements specified in the contract. The site project superintendent in this context shall be the highest level manager responsible for overall construction activities at the site, including quality and production. The site project superintendent shall maintain a physical presence at the site at all times, except as otherwise acceptable to the Contracting Officer, and shall be responsible for all construction and construction related activities at the site.

## 3.2 QUALITY CONTROL PLAN

### 3.2.1 General

The Contractor shall furnish for review by the Government, not later than 10 days after receipt of notice to proceed, the Contractor Quality Control (CQC) Plan proposed to implement the requirements of the Contract Clause titled "Inspection of Construction." The plan shall identify personnel, procedures, control, instructions, test, records, and forms to be used. The Government will consider an interim plan for the first 60 days of operation. Construction will be permitted to begin only after acceptance of the CQC Plan or acceptance of an interim plan applicable to the particular feature of work to be started. Work outside of the features of work included in an accepted interim plan will not be permitted to begin until acceptance of a CQC Plan or another interim plan containing the additional features of work to be started.

### 3.2.2 Content of the CQC Plan

The CQC Plan shall include, as a minimum, the following to cover all construction operations, both onsite and offsite, including work by subcontractors, fabricators, suppliers, and purchasing agents:

- a. A description of the quality control organization, including a chart showing lines of authority and acknowledgment that the CQC staff shall implement the three phase control system for all aspects of the work specified. The staff shall include a CQC System Manager who shall report to the project manager. If the project manager and project superintendent are the same person, the CQC System Manager shall report to someone higher in the Contractor's organization than the project manager.
- b. The name, qualifications (in resume format), duties, responsibilities, and authorities of each person assigned a CQC function.
- c. A copy of the letter to the CQC System Manager signed by an authorized official of the firm which describes the responsibilities and delegates sufficient authorities to adequately perform the functions of the CQC System Manager, including authority to stop work which is not in compliance with the contract. The CQC System Manager shall issue letters of direction to all other various quality control representatives outlining duties, authorities, and responsibilities. Copies of these letters shall also be furnished to the Government.
- d. Procedures for scheduling, reviewing, certifying, and managing submittals, including those of subcontractors, offsite fabricators, suppliers, and purchasing agents. These procedures shall be in accordance with Section 01330 SUBMITTAL PROCEDURES.
- e. Control, verification, and acceptance testing procedures for each specific test to include the test name, specification paragraph requiring test, feature of work to be tested, test frequency, and person responsible for each test. Laboratory facilities will be validated by the Corps of Engineers Material Testing Center and approved by the Contracting Officer.
- f. Procedures for tracking preparatory, initial, and follow-up control phases and control, verification, and acceptance tests including documentation.

- g. Procedures for tracking construction deficiencies from identification through acceptable corrective action. These procedures shall establish verification that identified deficiencies have been corrected.
- h. Reporting procedures, including proposed reporting formats.
- i. A list of the definable features of work. A definable feature of work is a task which is separate and distinct from other tasks, has separate control requirements, and may be identified by different trades or disciplines, or it may be work by the same trade in a different environment. Although each section of the specifications may generally be considered as a definable feature of work, there are frequently more than one definable features under a particular section. This list will be agreed upon during the coordination meeting.

### 3.2.3 Acceptance of Plan

Acceptance of the Contractor's plan is required prior to the start of construction. Acceptance is conditional and will be predicated on satisfactory performance during the construction. The Government reserves the right to require the Contractor to make changes in his CQC Plan and operations including removal of personnel, as necessary, to obtain the quality specified.

### 3.2.4 Notification of Changes

After acceptance of the CQC Plan, the Contractor shall notify the Contracting Officer in writing of any proposed change. Proposed changes are subject to acceptance by the Contracting Officer.

## 3.3 COORDINATION MEETING

After the Preconstruction Conference, before start of construction, and prior to acceptance by the Government of the CQC Plan, the Contractor shall meet with the Contracting Officer or Authorized Representative and discuss the Contractor's quality control system. The CQC Plan shall be submitted for review a minimum of 5 calendar days prior to the Coordination Meeting. During the meeting, a mutual understanding of the system details shall be developed, including the forms for recording the CQC operations, control activities, testing, administration of the system for both onsite and offsite work, and the interrelationship of Contractor's Management and control with the Government's Quality Assurance. Minutes of the meeting shall be prepared by the Government and signed by both the Contractor and the Contracting Officer. The minutes shall become a part of the contract file. There may be occasions when subsequent conferences will be called by either party to reconfirm mutual understandings and/or address deficiencies in the CQC system or procedures which may require corrective action by the Contractor.

## 3.4 QUALITY CONTROL ORGANIZATION

### 3.4.1 Personnel Requirements

The requirements for the CQC organization are a CQC System Manager and sufficient number of additional qualified personnel to ensure safety and contract compliance. The Safety and Health manager shall receive direction and authority from the CQC System manager and shall serve as a

member of the CQC staff. The Contractor shall provide a CQC organization which shall be at the site at all times during progress of the work and with complete authority to take any action necessary to ensure compliance with the contract. All CQC staff members shall be subject to acceptance by the Contracting Officer. The Contractor shall provide adequate office space, filing systems and other resources as necessary to maintain an effective and fully functional CQC organization. Complete records of all letters, material submittals, shop drawings submittals, schedules and all other project documentation shall be promptly furnished to the CQC organization by the Contractor. The CQC organization shall be responsible to maintain these documents and records at the site at all times, except as otherwise acceptable to the Contracting Officer.

### 3.4.2 CQC System Manager

The Contractor shall identify as CQC System Manager an individual within the onsite work organization who shall be responsible for overall management of CQC and have the authority to act in all CQC matters for the Contractor. The CQC System Manager shall be a graduate engineer, graduate architect, or a graduate of construction management, with a minimum of 5 years construction experience on construction similar to this contract or a construction person with a minimum of 10 years in related work. This CQC System Manager shall be on the site at all times during construction and shall be employed by the prime Contractor. The CQC System Manager shall be assigned as System Manager but may have duties as project superintendent in addition to quality control. An alternate for the CQC System Manager shall be identified in the plan to serve in the event of the System Manager's absence. The requirements for the alternate shall be the same as for the designated CQC System Manager.

### 3.4.3 CQC Personnel

In addition to CQC personnel specified elsewhere in the contract, the Contractor shall provide as part of the CQC organization specialized personnel to assist the CQC System Manager for the following areas: civil, structural, concrete and submittals clerk. These individuals may be employees of the prime or subcontractor; shall be responsible to the CQC System Manager; be physically present at the construction site during work on their areas of responsibility; have the necessary education and/or experience in accordance with the experience matrix listed herein. These individuals shall have no other duties other than quality control.

Experience Matrix		
	<u>Area</u>	<u>Qualifications</u>
a.	Civil	Graduate Civil Engineer with 2 years experience in the type of work being performed on this project or technician with 5 years related experience
d	Structural	Graduate Structural Engineer with 2 years experience or person with 5 years related experience
g	Submittals	Submittal Clerk with 1 year experience

i.	Concrete, Pavements and Soils	Materials Technician with 2 years experience for the appropriate area
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#### 3.4.4 Additional Requirement

In addition to the above experience education requirements the CQC System Manager shall have completed the course entitled "Construction Quality Management For Contractors". This course is periodically offered at AGC offices throughout the state of Washington and Oregon.

#### 3.4.5 Organizational Changes

The Contractor shall maintain the CQC staff at full strength at all times. When it is necessary to make changes to the CQC staff, the Contractor shall revise the CQC Plan to reflect the changes and submit the changes to the Contracting Officer for acceptance.

### 3.5 SUBMITTALS AND DELIVERABLES

Submittals shall be made as specified in Section 01330 SUBMITTAL PROCEDURES. The CQC organization shall be responsible for certifying that all submittals are in compliance with the contract requirements. All Contractor forms for submitting test results are subject to Contracting Officer approval.

### 3.6 CONTROL

Contractor Quality Control is the means by which the Contractor ensures that the construction, to include that of subcontractors and suppliers, complies with the requirements of the contract. At least three phases of control shall be conducted by the CQC System Manager for each definable feature of work as follows:

#### 3.6.1 Preparatory Phase

This phase shall be performed prior to beginning work on each definable feature of work, after all required plans/documents/materials are approved/accepted, and after copies are at the work site. This phase shall include:

- a. A review of each paragraph of applicable specifications, reference codes, and standards. A copy of those sections of referenced codes and standards applicable to that portion of the work to be accomplished in the field shall be made available by the Contractor at the preparatory inspection. These copies shall be maintained in the field and available for use by Government personnel until final acceptance of the work.
- b. A review of the contract drawings.
- c. A check to assure that all materials and/or equipment have been tested, submitted, and approved.
- d. Review of provisions that have been made to provide required control inspection and testing.

- e. Examination of the work area to assure that all required preliminary work has been completed and is in compliance with the contract.
- f. A physical examination of required materials, equipment, and sample work to assure that they are on hand, conform to approved shop drawings or submitted data, and are properly stored.
- g. A review of the appropriate activity hazard analysis to assure safety requirements are met.
- h. Discussion of procedures for controlling quality of the work including repetitive deficiencies. Document construction tolerances and workmanship standards for that feature of work.
- i. A check to ensure that the portion of the plan for the work to be performed has been accepted by the Contracting Officer.
- j. Discussion of the initial control phase.
- k. The Government shall be notified at least 48 hours in advance of beginning the preparatory control phase. This phase shall include a meeting conducted by the CQC System Manager and attended by the superintendent, other CQC personnel (as applicable), and the foreman responsible for the definable feature. The results of the preparatory phase actions shall be documented by separate minutes prepared by the CQC System Manager and attached to the daily CQC report. The Contractor shall instruct applicable workers as to the acceptable level of workmanship required in order to meet contract specifications.

### 3.6.2 Initial Phase

This phase shall be accomplished at the beginning of a definable feature of work. The following shall be accomplished:

- a. A check of work to ensure that it is in full compliance with contract requirements. Review minutes of the preparatory meeting.
- b. Verify adequacy of controls to ensure full contract compliance. Verify required control inspection and testing.
- c. Establish level of workmanship and verify that it meets minimum acceptable workmanship standards. Compare with required sample panels as appropriate.
- d. Resolve all differences.
- e. Check safety to include compliance with and upgrading of the safety plan and activity hazard analysis. Review the activity analysis with each worker.
- f. The Government shall be notified at least 24 hours in advance of beginning the initial phase. Separate minutes of this phase shall be prepared by the CQC System Manager and attached to the daily CQC report. Exact location of initial phase shall be indicated for future reference and comparison with follow-up phases.

- g. The initial phase should be repeated for each new crew to work onsite, or any time acceptable specified quality standards are not being met.

### 3.6.3 Follow-up Phase

Daily checks shall be performed to assure control activities, including control testing, are providing continued compliance with contract requirements, until completion of the particular feature of work. The checks shall be made a matter of record in the CQC documentation. Final follow-up checks shall be conducted and all deficiencies corrected prior to the start of additional features of work which may be affected by the deficient work. The Contractor shall not build upon nor conceal non-conforming work.

### 3.6.4 Additional Preparatory and Initial Phases

Additional preparatory and initial phases shall be conducted on the same definable features of work if the quality of on-going work is unacceptable, if there are changes in the applicable CQC staff, onsite production supervision or work crew, if work on a definable feature is resumed after a substantial period of inactivity, or if other problems develop.

## 3.7 TESTS

### 3.7.1 Testing Procedure

The Contractor shall perform specified or required tests to verify that control measures are adequate to provide a product which conforms to contract requirements, see Table 1 – Minimum Testing, attached at the end of this specification section. Contractor shall submit all materials test reports on forms standard to industry standards such as ACI, ASTM and AASHTO or with laboratory accreditation forms such as AALA, NIST or NVLAP. Upon request, the Contractor shall furnish to the Government duplicate samples of test specimens for possible testing by the Government. Testing includes operation and/or acceptance tests when specified. The Contractor shall procure the services of a Corps of Engineers validated testing laboratory or establish a testing laboratory at the project site which can be validated by the Corps of Engineers in advance of any and all required testing; and in addition, submit proof of validation for approval. The Contractor shall perform the following activities and record and provide the following data:

- a. Verify that testing procedures comply with contract requirements.
- b. Verify that facilities and testing equipment are available and comply with testing standards.
- c. Check test instrument calibration data against certified standards.
- d. Verify that recording forms and test identification control number system, including all of the test documentation requirements, have been prepared.
- e. Results of all tests taken, both passing and failing tests, shall be recorded on the CQC report for the date taken. Specification paragraph reference, location where tests were taken, and the sequential control number identifying the test shall be given. If approved by the

Contracting Officer, actual test reports may be submitted later with a reference to the test number and date taken. An information copy of tests performed by an offsite or commercial test facility shall be provided directly to the Contracting Officer. Failure to submit timely test reports as stated may result in nonpayment for related work performed and disapproval of the test facility for this contract.

### 3.7.2 Testing Laboratories

#### a. Validation

The testing laboratory shall be validated by the Corps of Engineers Materials Testing Center (MTC) for all tests required by the contract prior to the performance of any such testing. The validation of a laboratory is site specific and cannot be transferred or carried over to a facility at a different location. Any and all costs associated with this Government laboratory validation shall be borne by the laboratory and/or the Contractor. Validation of a laboratory is not granted for the entire laboratory activity, but only for the specific procedures requested by the inspected laboratory. The inspected laboratory has full choice of the procedures to be inspected except that the Quality Assurance portion of ASTM E 329 is mandatory to be inspected.

##### (1) Validation Procedures

Validation of a laboratory may consist of either an inspection or audit as defined herein. Validation of all material testing laboratories shall be performed by the MTC. Validation may be accomplished by one of the following processes:

(a) Inspection. Inspection shall be performed by the MTC in accordance with American Society for Testing and Materials (ASTM) standards E329 and D3740.

(b) Audit. A laboratory may be validated by auditing if it has been accredited by the Concrete and Cement Reference Laboratory (CCRL) or AASHTO Materials Reference Laboratory (AMRL) within the past two years in accordance with ASTM E329. Audit shall be performed by the MTC. Inspection by MTC may be required after auditing if one or more of the critical testing procedures required in the project specification were not included in the CCRL or AMRL inspection report or if there is any concern that the laboratory may not be able to provide required services.

#### b. Standards of Acceptability

(1) Aggregate, concrete, bituminous materials, soil, and rock. Laboratories for testing aggregate, concrete, bituminous materials, soil, and rock shall be validated for compliance with ASTM E 329, Engineer Manual (EM) 1110-2-1906, or project specifications, as applicable.

(2) Water, sediment, and other samples. Laboratories engaged in analysis of water, sediment, and other samples for chemical analysis shall be inspected to assure that they have the capability to perform analyses and quality control procedures described in references in Appendix A as appropriate. The use of analytical methods for procedures not



addressed in these references will be evaluated by the CQAB for conformance with project or program requirements.

(3) Steel and other construction materials, Laboratories testing steel and other construction materials shall be validated for capabilities to perform tests required by project requirements and for compliance with ASTM E329.

c. Validation Schedule

(1) For all contracted laboratories and project Quality Assurance (QA) laboratories testing aggregate, concrete, bituminous materials, soils, rock, and other construction materials, an initial validation shall be performed prior to performance of testing and at least every two (2) years thereafter.

(2) Laboratories performing water quality, wastewater, sludge, and sediment testing shall be approved at an interval not to exceed eighteen (18) months.

(3) All laboratories shall be revalidated at any time at the discretion of the Corps of Engineers when conditions are judged to differ substantially from the conditions when last validated.

d. Validation Process

If a validated laboratory is unavailable or the Contractor selects to use a laboratory which has not been previously validated, Contractor shall coordinate with Corps of Engineers Material Testing Center (MTC) to obtain validation and pay all associated costs. Point of contact at MTC is Daniel Leavell, telephone (601) 634-2496, fax (601) 634-4656, email [daniel.a.leavell@erdc.usace.army.mil](mailto:daniel.a.leavell@erdc.usace.army.mil), at the following address:

U.S. Army Corps of Engineers  
Materials Testing Center  
Waterways Experiment Station  
3909 Hall Ferry Road  
Vicksburg, MS 39180-6199

Procedure for Corps of Engineers validation, including qualifications and inspection/audit request forms are available at the MTC web site:

<http://www.wes.army.mil/SL/MTC/mtc.htm>

Contractor shall coordinate directly with the MTC to obtain validation. Contractor is cautioned the validation process is complicated and lengthy, may require an onsite inspection by MTC staff, correction of identified deficiencies, and the submittal and approval of significant documentation. Estimate a minimum of 60 days to schedule an inspection/submittal and receive a validation. Cost of onsite inspections is \$2500 plus travel time and cost from Vicksburg MS. Cost of audits is \$1500. If an onsite inspection is required following an audit, the cost of the inspection shall be

\$1500 plus travel time and cost. The Contractor will be invoiced for actual travel costs and shall submit payment direct to the MTC made payable to the ERDC Finance and Accounting Officer prior to the scheduling of the inspection and/or audit. The Contractor shall copy the Contracting Officer of all correspondence and submittals to the MTC for purposes of laboratory validation.

### 3.7.3 Onsite Laboratory

The Government reserves the right to utilize the Contractor's control testing laboratory and equipment to make assurance tests and to check the Contractor's testing procedures, techniques, and test results at no additional cost to the Government.

### 3.7.4 Furnishing or Transportation of Samples for Testing

Costs incidental to the transportation of samples or materials will be borne by the Contractor. Samples of materials for test verification and acceptance testing by the Government shall be delivered to the Corps of Engineers Division Laboratory, f.o.b., at the following address:

U.S. Army Corps of Engineers  
Materials Testing Center  
Waterways Experiment Station  
3909 Hall Ferry Road  
Vicksburg, MS 39180-6199  
Phone: (610) 634-2496 or (601) 634-3261

ATTN: Project \_\_\_\_\_, Contract Number \_\_\_\_\_

Coordination for each specific test, exact delivery location and dates will be made through the Area Office.

If samples are scheduled to arrive at the laboratory on a weekend (after 1700 Friday through Sunday) notify the laboratory at least 24 hours in advance at (601) 634-3974 to arrange for delivery.

## 3.8 COMPLETION INSPECTION

### 3.8.1 Punch-Out Inspection

Near the completion of all work or any increment thereof established by a completion time stated in the Special Clause entitled "Commencement, Prosecution, and Completion of Work," or stated elsewhere in the specifications, the CQC System Manager shall conduct an inspection of the work and develop a punch list of items which do not conform to the approved drawings and specifications. Such a list of deficiencies shall be included in the CQC documentation, as required by paragraph DOCUMENTATION below, and shall include the estimated date by which the deficiencies will be corrected. The CQC System Manager or staff shall make a second inspection to ascertain that all deficiencies have been corrected. Once this is accomplished, the Contractor shall notify the Government that the facility is ready for the Government Pre-Final inspection.

### 3.8.2 Pre-Final Inspection

The Government will perform this inspection to verify that the facility is complete and ready to be occupied. A Government Pre-Final Punch List may be developed as a result of this inspection. The Contractor's CQC System Manager shall ensure that all items on this list have been corrected before notifying the Government so that a Final inspection with the customer can be scheduled. Any items noted on the Pre-Final inspection shall be corrected in a timely manner. These inspections and any deficiency corrections required by this paragraph shall be accomplished within the time slated for completion of the entire work or any particular increment thereof if the project is divided into increments by separate completion dates.

### 3.8.3 Final Acceptance Inspection

The Contractor's Quality Control Inspection personnel, plus the superintendent or other primary management person, and the Contracting Officer's Representative shall be in attendance at this inspection. Additional Government personnel including, but not limited to, those from Base/Post Civil Facility Engineer user groups, and major commands may also be in attendance. The final acceptance inspection will be formally scheduled by the Contracting Officer based upon results of the Pre-Final inspection. Notice shall be given to the Contracting Officer at least 14 days prior to the final acceptance inspection and shall include the Contractor's assurance that all specific items previously identified to the Contractor as being unacceptable, along with all remaining work performed under the contract, will be complete and acceptable by the date scheduled for the final acceptance inspection. Failure of the Contractor to have all contract work acceptably complete for this inspection will be cause for the Contracting Officer to bill the Contractor for the Government's additional inspection cost in accordance with the contract clause titled "Inspection of Construction".

## 3.9 DOCUMENTATION

The Contractor shall maintain current records providing factual evidence that required quality control activities and/or tests have been performed. These records shall include the work of subcontractors and suppliers and shall be on an acceptable form that includes, as a minimum, the following information:

- a. Contractor/subcontractor and their area of responsibility.
- b. Operating plant/equipment with hours worked, idle, or down for repair.
- c. Work performed each day, giving location, description, and by whom. When Network Analysis (NAS) is used, identify each phase of work performed each day by NAS activity number.
- d. Test and/or control activities performed with results and references to specifications/drawings requirements. The control phase should be identified (Preparatory, Initial, Follow-up). List deficiencies noted along with corrective action.
- e. Quantity of materials received at the site with statement as to acceptability, storage, and reference to specifications/drawings requirements.
- f. Submittals reviewed, with contract reference, by whom, and action taken.

- g. Off-site surveillance activities, including actions taken.
- h. Job safety evaluations stating what was checked, results, and instructions or corrective actions.
- i. Instructions given/received and conflicts in plans and/or specifications.
- j. Contractor's verification statement.

These records shall indicate a description of trades working on the project; the number of personnel working; weather conditions encountered; and any delays encountered. These records shall cover both conforming and deficient features and shall include a statement that equipment and materials incorporated in the work and workmanship comply with the contract. The original and one copy of these records in report form shall be furnished to the Government daily within 24 hours after the date covered by the report, except that reports need not be submitted for days on which no work is performed. As a minimum, one report shall be prepared and submitted for every 7 days of no work and on the last day of a no work period. All calendar days shall be accounted for throughout the life of the contract. The first report following a day of no work shall be for that day only. Reports shall be signed and dated by the CQC System Manager. The report from the CQC System Manager shall include copies of test reports and copies of reports prepared by all subordinate quality control personnel.

### 3.10 SAMPLE FORMS

Sample forms are attached at the end of this specification section.

### 3.11 NOTIFICATION OF NONCOMPLIANCE

The Contracting Officer will notify the Contractor of any detected noncompliance with the foregoing requirements. The Contractor shall take immediate corrective action after receipt of such notice. Such notice, when delivered to the Contractor at the work site, shall be deemed sufficient for the purpose of notification. If the Contractor fails or refuses to comply promptly, the Contracting Officer may issue an order stopping all or part of the work until satisfactory corrective action has been taken. No part of the time lost due to such stop orders shall be made the subject of claim for extension of time or for excess costs or damages by the Contractor.

TABLE 1

MINIMUM SAMPLING AND TESTING FREQUENCY

<u>Materials</u>	<u>Test</u>	<u>Minimum Sampling and Testing Frequency</u>
<u>Fills, Embankments, Backfills</u>		
Fill and Embankment	Field Density <sup>2/12/</sup>	Two tests per lift for each increment or fraction of 1,672 square meters (2000 sy) and any time material type changes.
	Lab Density <sup>3/</sup>	One test initially per each type of materials or blended material and any time material type changes, and one every 10 field density tests.
	Gradation <sup>1/</sup>	One test every 153 cubic meters (200 cubic yards) of fill for each type of materials or blended material and any time material type changes.
Backfill	Field Density <sup>2/12/</sup>	One test per lift for each increment or fraction of 61 lineal meters (200 linear feet) of backfill.
	Lab Density <sup>3/</sup>	One test initially per each type of material or blended material and one every 10 field density tests.
	Gradation <sup>1/</sup>	One test per each type of material or blended material and one every 10 field density tests.
<u>Portland Cement Concrete</u>		
Coarse and Fine Aggregate <sup>7/</sup>	Moisture, specific gravity and absorption <sup>8/</sup>	1 initially.
	Gradation and fineness modules	1 every 191 cubic meters (250 cy) of concrete.
	Moisture, specific gravity and absorption <sup>8/</sup>	(same as coarse aggregate).

<u>Materials</u>	<u>Test</u>	<u>Minimum Sampling and Testing Frequency</u>
Concrete	Slump	Conduct test every day of placement and for every 19 cubic meters (25 cy) and more frequently if batching appears inconsistent. Conduct with strength tests.
	Entrained Air	Conduct with slump test.
	Ambient and concrete temperatures	Conduct with slump tests.
	Unit weight, yield, and water cement ratio	Conduct with strength tests. Check unit weight and adjust aggregate weights to insure proper yield.
	Flexural strength and evaluation	When specified for slabs on grade or for concrete pavements, take one set of 6 beams every 76 cubic meters (100 cy) of concrete with a minimum of 1 set per day. Two beams shall be tested at 7 days, two at 28 days, and two at 90 days.
	Compressive strength	One set of 3 cylinders per day and every 76 cubic meters (100 cy) for each class of structural concrete. Test one cylinder at 7 days and two at 28 days. Additional field cure cylinders shall be made when insitu strengths are required to be known.
Vibrators	Frequency and amplitude	Check frequency and amplitude initially and any time vibration is questionable.

NOTES:

- 1/All acceptance tests shall be conducted from in-place samples.
- 2/Additional tests shall be conducted when variations occur due to the contractors operations, weather conditions, site conditions, etc.
- 3/Classification (ASTM D-2487), moisture contents, Atterberg limits and specific gravity tests shall be conducted for each compaction test if applicable.
- 4/Materials to be submitted only upon request by the Contracting Officer.
- 5/Tests can substitute for same tests required under "Aggregates" (from bins or source), although gradations will be required when blending aggregates.
- 6/Increase quantities by 50 percent for Paving mixes and by 100 percent for Government testing of admixtures. Include standard deviation for similar mixes from the intended batch plant and data from a minimum of 30 tests, if available. Refer to ACI 214.
- 7/A petrographic report for aggregate is required with the sample for source approval. If the total amount of all types of concrete is less than 153 cubic meters (200 c.y.) service records from three separate structures in similar environments which used the aggregates may substitute for the petrographic report.
- 8/Aggregate moisture tests are to be conducted in conjunction with concrete strength tests for w/c calculations.
- 9/For less than 1,000 units, the above test may be waived at the discretion of the Contracting Officer and acceptance based on manufacturers certification and test report.
- 10/Additional tests shall be performed when changes are made either in the manufacturing processes or in materials used in the production of the masonry units.
- 11/If adequate storage protection is not provided at the jobsite, additional tests shall be made to determine that the allowable moisture condition has not been exceeded before the blocks can be placed in the structure.
- 12/The nuclear densometer, if properly calibrated, may be used but only in addition to the required testing frequency and procedures using sandcones. The densometer shall be calibrated and is recommended for use when the time for complete results becomes critical.

Contract Number: \_\_\_\_\_ Date: \_\_\_\_\_ Rpt. No. \_\_\_\_\_

Weather: Clear \_\_ P. Cloudy \_\_ Cloudy \_\_ Rainfall \_\_ (\_\_% of workday)

Temperature during workday: High \_\_\_\_ degrees F. Low \_\_\_\_ degrees F.

<u>Contractor Name</u>	<u>No. of Workers</u>	<u>Crafts/Hours</u>	<u>Work performed</u>
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[illegible][illegible]

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3. QUALITY CONTROL INSPECTIONS AND RESULTS: (Include a description of preparatory, initial, and/or follow up inspections or meetings; check of subcontractors work and materials delivered to the site compared to submittals and/or specifications; comments on the proper storage of materials; include comments on corrective actions to be taken):

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4. QUALITY CONTROL TESTING AND RESULTS (comment on tests and attach test reports):

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5. DAILY SAFETY INSPECTIONS (Include comments on new hazards to be added to the Hazard Analysis and corrective action of any safety issues):

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6. REMARKS (Include conversations with or instructions from the Government representatives; delays of any kind that are impacting the job; conflicts in the contract documents; comments on change orders; environmental considerations; etc.):

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CONTRACTOR'S VERIFICATION: The above report is complete and correct. All material, equipment used, and work performed during this reporting period are in compliance with the contract documents except as noted above.

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CONTRACTOR QC REPRESENTATIVE

(Sample of Typical Contractor's Test Report)

TEST REPORT

STRUCTURE OR BUILDING \_\_\_\_\_

CONTRACT NO. \_\_\_\_\_

DESCRIPTION OF ITEM, SYSTEM, OR PART OF SYSTEM TESTED:

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DESCRIPTION OF TEST: \_\_\_\_\_

---

NAME AND TITLE OF PERSON IN CHARGE OF PERFORMING TESTS FOR THE  
CONTRACTOR:

NAME\_\_\_\_\_

TITLE\_\_\_\_\_

SIGNATURE\_\_\_\_\_

I HEREBY CERTIFY THAT THE ABOVE DESCRIBED ITEM, SYSTEM, OR PART OF SYSTEM  
HAS BEEN TESTED AS INDICATED ABOVE AND FOUND TO BE ENTIRELY  
SATISFACTORY AS REQUIRED IN THE CONTRACT SPECIFICATIONS.

SIGNATURE OF CONTRACTOR  
QUALITY CONTROL INSPECTOR\_\_\_\_\_

DATE\_\_\_\_\_

REMARKS

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END OF SECTION

## SECTION 01501

### CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS

#### PART 1 GENERAL

##### 1.1 AVAILABILITY OF UTILITY SERVICES

###### 1.1.1 Water and Electricity

The Contractor shall be responsible for providing its own water and electricity.

##### 1.2 SANITARY PROVISIONS

Contractor shall provide sanitary accommodations for the use of employees as may be necessary and shall maintain accommodations approved by the Contracting Officer and shall comply with the requirements and regulations of the State Health Department, County Sanitarian, or other authorities having jurisdiction.

##### 1.3 TEMPORARY ELECTRIC WIRING

###### 1.3.1 Temporary Power and Lighting

The Contractor shall provide construction power facilities in accordance with the safety requirements of the National Electric Code NFPA No. 70 and the SAFETY AND HEALTH REQUIREMENTS MANUAL EM 385-1-1. The Contractor, or its delegated subcontractor, shall enforce the safety requirements of electrical extensions for the work of subcontractors. Work shall be accomplished by skilled electrical tradesmen.

###### 1.3.2 Construction Equipment

In addition to the requirements of SAFETY AND HEALTH REQUIREMENTS MANUAL, EM 385-1-1, temporary wiring conductors installed for operation of construction tools and equipment shall be either Type TW or THW contained in metal raceways, or shall be hard usage or extra hard usage multiconductor cord. Temporary wiring shall be secured above the ground or floor in a workmanlike manner and shall not present an obstacle to persons or equipment. Open wiring may only be used outside of buildings, and then only in accordance with the provisions of the National Electric Code.

###### 1.3.3 Submittals

Submit detailed drawings of temporary power connections. Drawings shall include, but not be limited to, main disconnect, grounding, service drops, service entrance conductors, feeders, GFCI'S, and all site trailer connections.

#### 1.4 FIRE PROTECTION

During the construction period, the Contractor shall provide fire extinguishers in accordance with the safety requirements of the SAFETY AND HEALTH REQUIREMENTS MANUAL, EM 385-1-1. The Contractor shall remove the fire extinguishers at the completion of construction.

#### 1.5 STAGING AREA

Contractor will be provided adequate open staging area as directed by the Contracting Officer. Area is unsecured, and Contractor shall make provisions for its own security.

Contractor shall be responsible for keeping staging area, and office area clean and free of weeds and uncontrolled vegetation growth. Weeds shall be removed by pulling or cutting to within 25 mm (1-inch) of ground level. Contractor shall restore all staging areas to conditions similar to those existing prior to construction activities. All loose debris and material subject to being moved by prevailing winds in the area shall be picked up or secured at all times.

If the area is not maintained in a safe and clean condition as defined above the Contracting Officer may have the area cleaned by others with the costs being deducted from the contractor's payment.

#### 1.6 RAILROAD SCHEDULE COORDINATION PLAN

Within 28 days after receiving the Notice-to-Proceed, the Contractor shall submit a Railroad Schedule Coordination Plan for approval by the Contracting Officer. The plan shall include but not be limited to:

- Operation of equipment and crossing of tracks during regular railroad operations
- Use of signaling, flag personnel, or cellular/radio communications to warn of oncoming trains
- A schedule of railroad closures

The contractor shall develop the plan in coordination with Simpson Timber Company.

Contact: Jerry Ficklin  
Simpson Timber Company  
215 N. Third, P.O. Box 460  
Shelton, WA 98584  
360-427-4738

If the project unreasonably interferes with daily operation of the Simpson Timber Company Railroad, the Contract Officer may halt construction until the conflicts are resolved.

#### 1.7 HOUSEKEEPING AND CLEANUP

Pursuant to the requirements of Clause CLEANING UP and Clause ACCIDENT PREVENTION, of the CONTRACT CLAUSES, the Contractor shall assign sufficient personnel to insure compliance. The Contractor shall submit a detailed written plan for implementation of this requirement. The plan will be presented as part of the preconstruction safety plan and will provide for keeping the total construction site, structures, and accessways free of debris and obstructions at all times. Work will not be allowed in those

areas that, in the opinion of the Contracting Officer, have unsatisfactory cleanup and housekeeping at the end of the preceding day's normal work shift. At least once each day all areas shall be checked by the Quality Control person of the Contractor and the findings recorded on the Quality Control Daily Report. In addition, the Quality Control person shall take immediate action to insure compliance with this requirement. Housekeeping and cleanup shall be assigned by the Contractor to specific personnel. The name(s) of the personnel shall be available at the project site.

## 1.8 PROJECT SIGN

Contractor shall furnish and install one project identification sign and one safety performance sign in accordance with conditions hereinafter specified and layout shown on drawings attached at end of this section, except Corps communication mark will be Government furnished. Corps communication mark shall be secured with galvanized screws. All lettering shall be block type, upper case. Letters shall be painted black on white background using exterior-type paint. Sign shall be maintained in excellent condition throughout life of job. Project sign shall be located as directed. Upon completion of project, sign shall be removed and shall remain the property of Contractor except Corps communication mark will remain property of the Government.

## 1.9 ELEVATED WORK AREAS

Workers in elevated work areas in excess of 2 meters (6 feet) above an adjoining surface require special safety attention. In addition to the provisions of SAFETY AND HEALTH REQUIREMENTS MANUAL, EM 385-1-1, the following safety measures are required to be submitted to the Contracting Officer's Representative. Prior to commencement of work in elevated work areas, the Contractor shall submit drawings depicting all provisions of his positive fall protection system including, but not limited to, all details of guardrails. Positive protection for workmen engaged in the installation of structural steel and steel joist shall be provided by safety nets, tie-offs, hydraulic man lifts, scaffolds, or other required means. Decking crews must be tied-off or work over nets or platforms not over 2 meters (6 feet) below the work area. Walking on beams and/or girders and the climbing of columns is prohibited without positive protection. Perimeter guardrails shall be installed at floor, roof, or wall openings more than 2 meters (6 feet) above an adjoining surface and on roof perimeters. Rails shall be designed to protect all phases of elevated work including, but not limited to, roofing operations and installation of gutters and flashing. Rails around roofs may not be removed until all work on the roof is complete and all traffic on or across the roof ceases. Rails shall be designed by a licensed engineer to provide adequate stability under any anticipated impact loading. As a minimum, the rails shall consist of a top rail at a height of 1,067 mm (42 inches), a mid-rail, and a toe board. Use of tie-offs, hydraulic man lifts, scaffolds, or other means of roof edge protection methods may be utilized on small structures such as family housing, prefabricated metal buildings, etc. If safety belts and harnesses are used, the positive fall protection plan will address fall restraint versus fall arrest. Body belts will ONLY be used for fall restraint, they will not be used for fall arrest.

## 1.10 UTILITIES NOT SHOWN

The Contractor can expect to encounter, within the construction limits of the entire project, utilities not shown on the drawings and not visible as to the date of this contract. If such utilities will interfere with construction operations, he shall immediately notify the Contracting Officer verbally and then in writing to enable a determination by the Contracting Officer as to the necessity for removal or relocation. If such utilities are removed or relocated as directed, the Contractor shall be entitled to equitable adjustment for

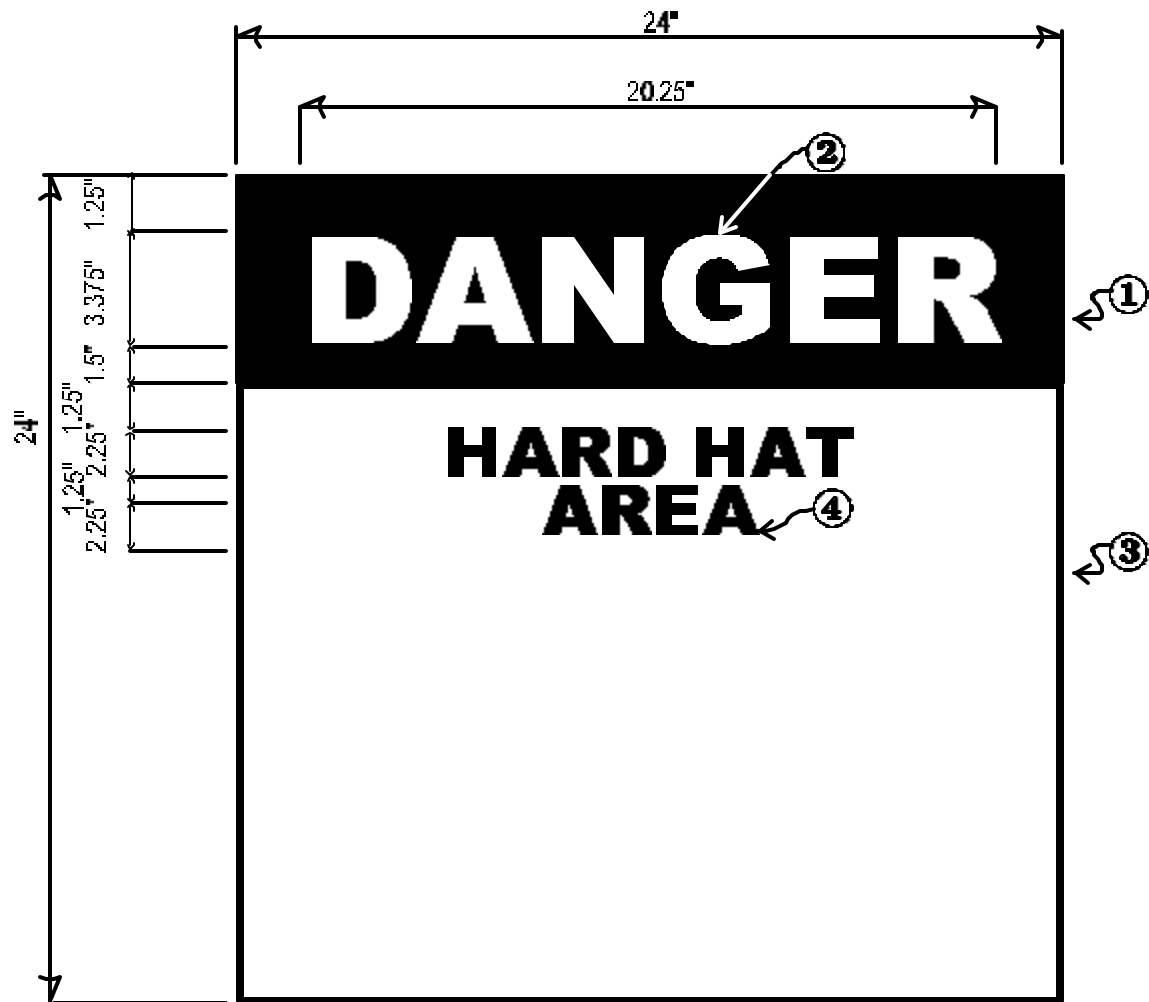
any additional work or delay. The types of utilities the Contractor may encounter are waterlines, sewerlines (storm and sanitary), gaslines, fueling lines, steamlines, buried fuel tanks, septic tanks, other buried tanks, communication lines, and powerlines. These utilities may be active or abandoned utilities.

#### 1.11 HARD HAT SIGNS

The Contractor shall provide 610 mm by 610 mm (24 by 24 inch) square Hard Hat Area signs at each entry to the project or work area as directed by the Contracting Officer. A minimum of two signs will be required. Signs shall be in accordance with the sketch at the end of this section.

#### PART 2 PRODUCTS AND PART 3 EXECUTION (NOT APPLICABLE)

END OF SECTION



- SIGN SHALL BE FABRICATED FROM .125 THICK 6061-T6 ALUMINUM PANEL
  - COLOR
    1. SAFETY RED (SR)
    2. WHITE
    3. WHITE
    4. BLACK
  - LETTERING SHALL BE HELVETICA BOLD TYPOGRAPHY.
  - LETTERS AND BACKGROUND SHALL BE REFLECTIVE SHEETING MATERIAL.
  - SIGNS SHALL BE POSTED AT 6'-6" (BOTTOM SIGN TO GRADE) OR AS DIRECTED BY THE CONTRACTING OFFICER.
- LETTERING TO BE CENTERED ON PANEL.

**NOTES**

- ONE-TO TWO-LINE DESCRIPTION OF CORPS RELATIONSHIP TO PROJECT.  
 COLOR: BLACK  
 TYPEFACE: 1.25" HELVETICA REGULAR  
 MAX. LENGTH: 19"
- CORPS COMMUNICATION MARK (2' X 2') WITH CASTLE AND DISTRICT NAME WILL BE GOVERNMENT FURNISHED. MOUNT AS SHOWN. DRILL 5/16" HOLES AND SECURE WITH 1/4" X 1 1/2" NC ALUMINUM BOLTS.
- ONE-TO THREE-LINE PROJECT TITLE LEGEND DESCRIBES THE WORK BEING DONE UNDER THIS CONTRACT.  
 COLOR: BLACK  
 TYPEFACE: 3" HELVETICA BOLD  
 MAX. LENGTH: 42"
- ONE-TO TWO-LINE IDENTIFICATION OF PROJECT OR FACILITY  
 COLOR: BLACK  
 TYPEFACE: 1.5" HELVETICA REGULAR  
 MAX. LENGTH: 42"
- CROSS-ALIGN THE FIRST LINE OF PROJECT OR FACILITY WITH FIRST LINE OF THE CORPS SIGNATURE (US ARMY CORPS) AS SHOWN.
- ONE-TO FIVE-LINE IDENTIFICATION OF PRIME CONTRACTORS INCLUDING: TYPE (ARCH., GENERAL CONTRACTOR, ETC.) CORPORATE OR FIRM NAME, CITY, STATE.  
 COLOR: BLACK  
 TYPEFACE: 1.25" HELVETICA REGULAR  
 MAX. LENGTH: 21"

SCALE: 3/4"=1'-0"

U.S. ARMY CORPS OF ENGINEERS  
SEATTLE DISTRICT

CIVIL WORKS

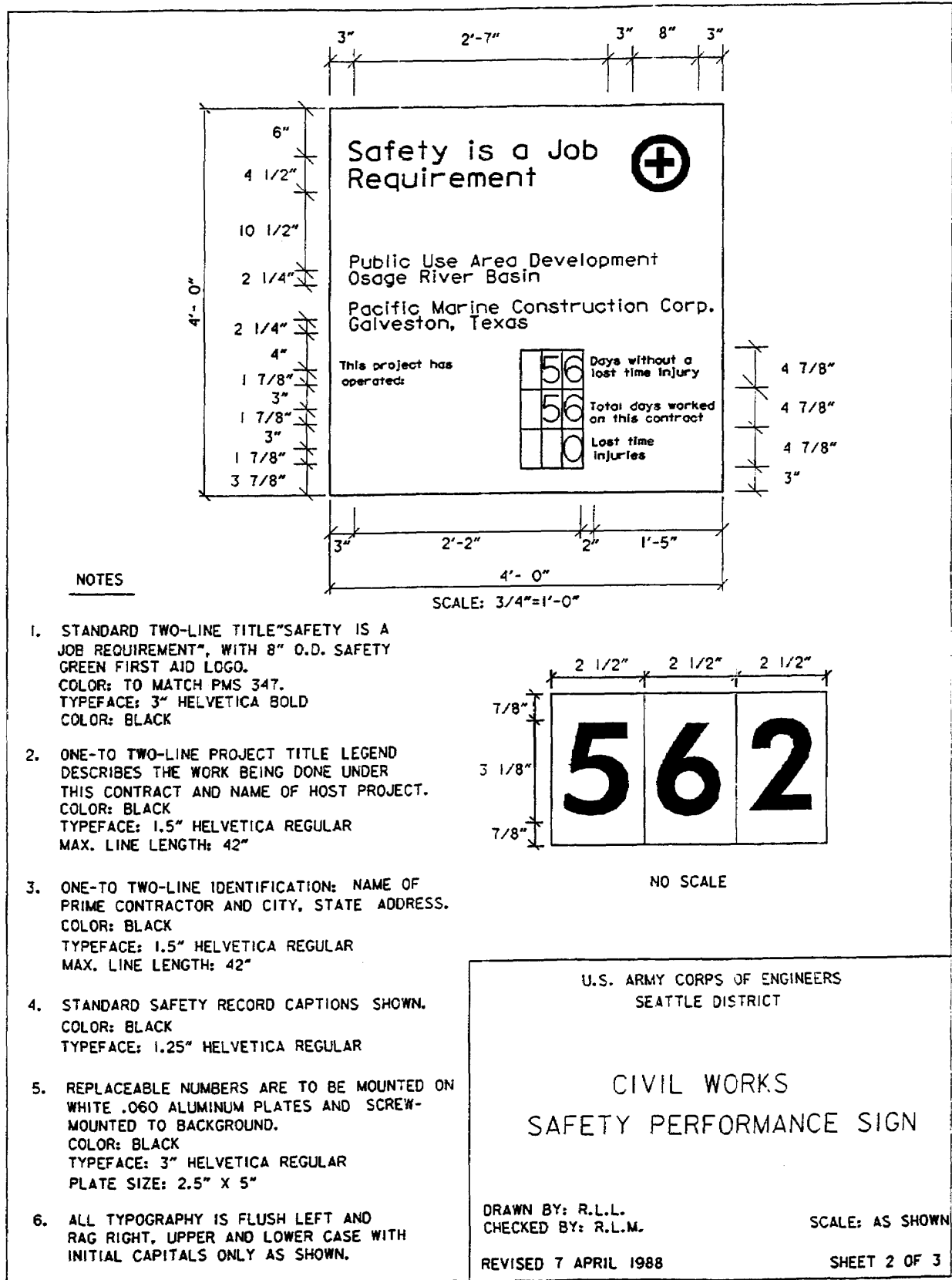
PROJECT IDENTIFICATION SIGN

DRAWN BY: R.L.L.  
CHECKED BY: R.L.M.

SCALE: AS SHOWN

REVISED 7 APRIL 1988
SHEET 1 OF 3





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SECTION 01560

CARE AND DIVERSION OF WATER

PART 1 GENERAL

1.1 SCOPE

This section describes drainage, disposal, and/or diversion of any water as required for performance of this contract work. The work includes care and any necessary diversion of water in the following locations for the duration of the construction period.

- a. Goldsborough Creek
- b. Unnamed ephemeral tributary #1, which enters Goldsborough Creek from the south approximately 350 feet upstream of the existing dam face.
- c. Unnamed ephemeral tributary #2, which enters Goldsborough Creek from the south approximately 160 feet downstream of the existing dam face. The tributary is adjacent to the kiosk at the end of the existing south bank access road.
- d. Any other unnamed tributaries that may be identified during the course of construction.
- e. Runoff from excavation and grading areas.
- f. Drainage of groundwater from excavation and drainage areas.

Diversion facilities for Goldsborough Creek and unnamed tributary #1 shall be designed and constructed in accordance with fish passage requirements provide in this specification.

1.2 SUBMITTALS

Government approval is required for submittals with a "GA" designation; submittals having an "FIO" designation are for information only. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-01 Data

Work Plan; GA.

Submit overall plan for care and any required diversion of water.

Fish Management Plan; GA.

Submit overall plan for ensuring that any downstream migrating fish can safely pass through any diversion structure.

SD-04 Drawings

Design Drawings; GA.

The contractor shall submit drawings and design computations for all diversion facilities and structures for Government approval within 60 days after Notice to Proceed.

PART 2 PRODUCTS

2.1 Materials

As required to provide temporary control.

PART 3 EXECUTION

3.1 DIVERSION AND DEWATERING

Prior to start of construction, the overall work plan for care and any necessary diversion of water from sources listed in Paragraph: SCOPE shall be submitted to the Contracting Officer for review and approval. Unless otherwise specified, all facilities, equipment, and structure for care and diversion of water shall become the property of the contractor and shall be removed upon completion of the work except the permanent drainage features of the project.

The diversion plan shall include all necessary engineering and design to provide a sound, safe, and reliable structure. The plan shall completely address installation and removal of the structure and all components, backfilling and compacting of trench work, restoration of roads, and restoration of vegetated areas and wetlands disturbed during construction, operation, and removal of the facility.

3.1.1 Complete Diversion Within Provided Easements

The diversion structures shall completely bypass the project. Interim or piecemeal diversions that bypass only a portion of the project shall not be allowed. The contractor shall design a diversion facility that lies within contractor's designated work area and/or the temporary construction easements shown on the drawings.

3.2 DIVERSION CAPACITIES GOLDSBOROUGH CREEK

The diversion facility shall consist of a diversion dam, and a conveyance facility that may be a closed conduit, open channel, or combination of both.

3.2.1 Diversion Pipeline

The diversion pipeline facility for Goldsborough Creek shall have a capacity to convey the entire flow of the creek up to at least 300 cubic feet per second (cfs). Flows up to this level shall be safely conveyed through or around the construction site with no adverse effects downstream. The point of disposal back into Goldsborough Creek shall include adequate scour protection to prevent erosion to bed and banks.

### 3.2.2 Diversion Dam

A temporary diversion dam shall be constructed using sheet piling, earth and rock or by an alternate method approved by the Contracting Officer. For flows exceeding the diversion pipeline capacity of 300cfs, accommodations will be made to protect the cofferdam embankment or to prevent sudden, large volume releases of the cofferdam storage. For forecasted long duration flows exceeding 300 cfs, provisions shall be made for controlled erosion/degradation of the embankment. For forecasted short duration flows exceeding 300cfs, provisions will be made for non-erosive overtopping of the embankment. Hydrologic conditions triggering each provision described above will be made by joint collaboration between the Contractor and the Corps of Engineers.

Supporting design discharge information to be used in designing the diversion facility is included below.

### 3.2.3 STREAM DESIGN DISCHARGE INFORMATION

#### 3.2.3.1 DESIGN DISCHARGE INFORMATION

Discharge frequency analyses were prepared for the stream gaging records at USGS gage # 12076500 - "Goldsborough Creek near Shelton", which was located approximately four miles upstream of the dam. The recorded discharges were adjusted upwards by the ratio of the drainage area at the dam (44 square miles) to the drainage area at the gage (39.3 square miles). The period of record extends from July 1951 - September 1971. Results are summarized in the table below.

#### Discharges

Exceedance or Recurrence Interval	Discharge (cfs)
95% daily average by month (low fish flow)	22
5% daily average by month (high fish flow)	475
2-year peak discharge	905
10-year peak discharge	1500
50-year peak discharge	2015
100-year peak discharge	2240
500-year peak discharge	2800

#### 3.2.3.2 Design Flow Capacity for Diversion During In-Water Work (Section 01001 specifies construction schedule related to In-Water Work)

The published mean daily discharges were separated by month and adjusted upwards based on the difference in drainage areas at the gage and the dam. For each month, flows were ranked and probability of exceedance was determined using the Weibull formula. The table below lists the maximum recorded discharge and the 1%, 5%, and 10% exceedance discharges for the period of interest, which is April through October.

Goldsborough Creek, Discharges for given Exceedance (cfs)

Exceedance Prob.	April	May	June	July	August	Sept.	Oct.
1%	400	240	100	53	53	73	310
5%	297	140	74	46	38	47	157
10%	240	115	65	43	35	37	118
<i>Maximum Recorded Discharge</i>	<i>891</i>	<i>540</i>	<i>179</i>	<i>64</i>	<i>71</i>	<i>105</i>	<i>390</i>

The following table lists the number of years in the 20 year record in which a given discharge was exceeded one or more times. It is expanded to give data for the early and late parts of both April and October.

Goldsborough Creek, Exceedance for a given Discharge

Discharge (cfs)	Apr. 1-19	Apr. 20-30	May	June	July	August	Sept.	Oct. 1-15	Oct. 16-30
150	14	8	4	1	0	0	0	1	7
200	11	5	2	0	0	0	0	0	3
250	8	4	1	0	0	0	0	0	2
300	6	3	1	0	0	0	0	0	2
<i>Years of Record&gt;&gt;</i>	<i>20</i>	<i>20</i>	<i>20</i>	<i>20</i>	<i>21</i>	<i>21</i>	<i>21</i>	<i>20</i>	<i>20</i>
<i>Percent of Record</i>									
150	70	40	20	5	0	0	0	5	35
200	55	25	10	0	0	0	0	0	15
250	40	20	5	0	0	0	0	0	10
300	30	15	5	0	0	0	0	0	10

### 3.2.4 Other Tributaries

The capacity of the diversion facilities for the unnamed tributaries shall be 1 cfs each. If the diversion facilities are joined, the combined capacity shall be 2 cfs. The temporary diversion structures shall be constructed to safely pass overflows of up to 12 cfs at both tributaries. The confluence of tributary #1 (above the dam) and Goldsborough Creek is located adjacent to an active beaver dam that shall not be disturbed during construction.

### 3.2.5 Drainage Facilities

The capacity of facilities for drainage of nuisance surface water flows shall be large enough to safely and efficiently direct water away from the project area. The capacity of facilities for drainage of groundwater

shall be large enough to safely and efficiently remove water from excavated areas.

### 3.1 QUALITY CONTROL

In accordance with Section 01451 CONTRACTOR QUALITY CONTROL, quality control shall be established and maintained for the care and diversion of water. Minimum requirements are listed below.

- a. Any necessary diversions and other structures shall be constructed in accordance with the approved design.
- b. Regular maintenance shall be instituted and carried out as long as care and diversion of water is required.
- c. Water passages, structures, and sumps shall be kept clear of dirt, rocks, wood, trash, and other debris.
- d. The work areas shall be kept free of running and standing water as necessary.
- e. Water used in processing, cleanup, or curing shall be controlled and disposed of in accordance with Section: 01061 ENVIRONMENTAL PROTECTION and the Stormwater Pollution Prevention Plan.
- f. The care and diversion of water shall comply with the requirements of Section: 01061 ENVIRONMENTAL PROTECTION and the Stormwater Pollution Prevention Plan.
- g. Required removal and cleanup of facilities for care and diversion of water shall be done in a satisfactory manner.

### 3.2 FISH REQUIREMENTS

#### 3.2.1 Upstream Migrating Fish

Trapping and hauling of upstream migrating fish will be the responsibility of the Government. Upstream migrating fish will be trapped and then released at sites outside (upstream) of the contractors work area. Contractor shall maintain daily foot access to a point above the work area for release of trapped fish.

#### 3.2.2 Downstream Migrating Fish

Diversion facilities for Goldsborough Creek and unnamed tributary #1 shall be designed and constructed in a manner that does not harm resident or downstream migrating fish. If the diversion works for both unnamed tributaries are combined into a single conveyance, it shall be designed to meet this requirement as well.

The contractor shall submit a Fish Management Plan that addresses design and construction of diversion facilities that provide safe passage for fish migrating in the downstream direction. At a minimum the bypass shall meet the standard Washington Department of Fish and Wildlife juvenile fish bypass design criteria for conduits, listed below:

- a. Maximum velocity in a smooth pipe constructed of high density polyethylene (HDPE) or polyvinyl chloride (PVC) shall not exceed 30 feet per second. Maximum velocity in a corrugated plastic or metal pipe shall not exceed 10 feet per second.
- b. There shall be no pumping of fish within a bypass system.
- c. Bypass hydraulics for discharges up to 250 cfs shall be open channel flow. Bypass pipes shall not be pressurized. Vents shall be provided.
- d. There shall be no extreme bends in pipes. Bypass pipe centerline radius of curvature divided by diameter (R/D) shall be 5 or greater.
- e. Bypass pipes or open channels shall be designed to minimize debris clogging and sediment deposition and to facilitate cleaning.
- f. Closure valves are not allowed in the bypass pipe.
- g. There shall be no hydraulic jumps within the bypass system.
- h. The bypass outfall shall be located where the receiving water is of sufficient depth (depending on the impact velocity and quantity of bypass flow) to ensure that fish injuries are avoided at all river and bypass flows.
- i. Maximum bypass outfall impact velocity (including vertical and horizontal velocity components) shall be less than 25.0 fps.

### 3.2.3 Dewatering and Stranded Fish

The Contractor shall provide a minimum of 14 calendar days notice to the Government prior to initiating diversion. Diversion shall not commence without approval from the Contracting Officer. The contractor will incrementally divert flow from Goldsborough Creek into the diversion facility to gradually dewater the stream over a period of 5-days. During that period, the Government will be responsible to shock, collect, and transport any remaining fish that are trapped in the pools.

-- End of Section --



## SECTION 01702

### AS BUILT RECORDS AND DRAWINGS

#### PART 1 GENERAL

##### 1.1 SUBMITTALS

Data listed in PART 3 of this section shall be submitted in accordance with section 01330 SUBMITTALS. Due dates shall be as indicated in applicable paragraphs and all submittals shall be completed before final payment will be made.

#### PART 2 PRODUCTS (NOT APPLICABLE)

#### PART 3 EXECUTION

##### 3.1 AS-BUILT FIELD DATA

###### 3.1.1 General

The Contractor shall keep at the construction site a complete set of full size blue-line prints of the contract drawings, reproduced at Contractor expense. During construction, these prints shall be marked to show all deviations in actual construction from the contract drawings. The color red shall be used to indicate all additions and green to indicate all deletions. The drawings shall show the following information but not be limited thereto:

- a. The locations and description of any utility lines and other installations of any kind or description known to exist within the construction area. The location includes dimensions to permanent features.
- b. The locations and dimension of any changes within the building or structure, and the accurate location and dimension of all underground utilities and facilities.
- c. Correct grade or alignment of roads, structures, and utilities if any changes were made from contract plans.
- d. Correct elevations if changes were made in site grading from the contract plans.
- e. Changes in details of design or additional information obtained from working drawings specified to be prepared and/or furnished by the Contractor including, but not limited to, fabrication erection, installation, and placing details, pipe sizes, insulation material, dimensions of equipment foundations, etc.
- f. The topography and grades of all drainage installed or affected as part of the project construction.
- g. All changes or modifications from the original design and from the final inspection.
- h. Where contract drawings or specifications allow options, only the option actually used in the construction shall be shown on the as-built drawings. The option not used shall be deleted.

These deviations shall be shown in the same general detail utilized in the contract drawings. Marking of the prints shall be pursued continuously during construction to keep them up to date. In addition, the Contractor shall maintain full size marked-up drawings, survey notes, sketches, nameplate data, pricing information, description, and serial numbers of all installed equipment. This information shall be maintained in a current condition at all times until the completion of the work. The resulting field-marked prints and data shall be referred to and marked as "As-Built Field Data," and shall be used for no other purpose. They shall be made available for inspection by the Contracting Officer's representative whenever requested during construction and shall be jointly inspected for accuracy and completeness by the Contracting Officer's representative and a responsible representative of the Contractor prior to submission of each monthly pay estimate. Failure to keep the As-Built Field Data (including Equipment-in-Place lists) current shall be sufficient justification to withhold a retained percentage from the monthly pay estimate.

### 3.1.2 Submittal of the As-Built Field Data

The As-Built Field Data shall be submitted to the Contracting Officer for review and approval a minimum of 20 calendar days prior to the date of final inspection. If review of the preliminary as-built drawings reveals errors and/or omissions, the drawings will be returned to the Contractor for corrections. The Contractor shall make all corrections and return the drawings to the Contracting Officer within 10 calendar days of receipt.

## 3.2 AS-BUILT CONTRACT ORIGINAL RECORD TRACINGS

### 3.2.1 General

Approved preliminary as-built drawings will be returned to the Contractor along with one set of the contract drawing original record tracings. The original record tracings will be full size mylars with matte/dull finish on both sides. These drawings are part of the permanent records of this project and the Contractor will be held responsible for their protection and safety until they are returned to the Contracting Officer. Any drawings damaged or lost by the Contractor shall be satisfactorily replaced in like medium, quality, and size as the originals at the Contractor's expense. The Contractor shall draft all as-built data onto these drawings. The drafting work shall be performed by Certified Engineering Technicians and/or individuals with a minimum of 5 years drafting experience. The names and qualifications of these individuals shall be submitted in writing to the Contracting Officer for approval.

### 3.2.2 Drafting

Drafting of the data onto the contract drawing original record tracings shall be done in a quality equal to that of the originals. Linework, line weights, lettering, and use of symbols shall be the same as the original linework, line weights, and lettering, and symbols. Plastic drafting leads or black ink shall be used. Graphite leads shall only be used where used on the original drawings. If additional drawings are required, they shall be prepared on the same medium and of equal size and quality as the original record tracings. When final revisions have been completed, each drawing shall be lettered or stamped with the words "AS-BUILT" in block letters at least 10 mm (3/8-inch) high placed above the title block if space permits, or if not, below the title block between the border and the trim line. The date of completion and the words "REVISED AS-BUILT" shall be placed in the revision block above the latest revision notation. Markings on the reverse side of the drawings will not be permitted. All costs of drafting and drawing preparation shall be at the Contractor's expense.

### 3.2.3 Submittal

The final as-built record drawings shall be completed and returned together with the approved preliminary as-built drawings to the COE, Seattle District Office, Engineering Records, within 30 calendar days of final acceptance. The Government will review all final as-built record drawings for accuracy and conformance to the drafting standards and other requirements contained in DIVISION 1 GENERAL REQUIREMENTS. The drawings shall be returned to the Contractor if corrections are necessary. The Contractor shall make all corrections and shall return the drawings to the same office within 7 calendar days of receipt.

### 3.3 PAYMENT

Payment will be made at the contract lump sum price for Item No. 0018, All Work for As-Built Drawings; payment of which shall constitute full compensation of Item No. 0018 complete. No partial or total payment will be made for this item until the as-built drawings, both marked up blue prints and electronic files are fully approved by the Government (A or B action) and all copies of approved drawings and electronic media received by the Government.

END OF SECTION

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## SECTION 01703

### WARRANTY OF CONSTRUCTION

#### PART 1 GENERAL

##### 1.1 SUBMITTALS

Submittals shall be made in accordance with SECTION 01330: SUBMITTAL PROCEDURES. Submittal dates shall be as defined in PART 3 of this section.

#### PART 2 PRODUCTS (NOT APPLICABLE)

#### PART 3 EXECUTION

##### 3.1 WARRANTY OF CONSTRUCTION (APR 1984) (FAR52.246-21):

3.1.1 In addition to any other warranties in this contract, the Contractor warrants, except as provided in paragraph 3.1.9 of this Clause, that work performed under this contract conforms to the contract requirements and is free of any defect in equipment, material, or design furnished, or workmanship performed by the Contractor or any subcontractor or supplier at any tier.

3.1.2 This warranty shall continue for a period of 1 year from the date of final acceptance of the work. If the Government takes possession of any part of the work before final acceptance, this warranty shall continue for a period of 1 year from the date the Government takes possession.

3.1.3 The Contractor shall remedy at the Contractor's expense, any failure to conform, or any defect. In addition, the Contractor shall remedy, at the Contractor's expense, any damage to Government-owned or controlled real or personal property, when that damage is the result of:

- a. the Contractor's failure to conform to contract requirements or
- b. any defect of equipment, material, workmanship, or design furnished.

3.1.4 The Contractor shall restore any work damaged in fulfilling the terms and conditions of this clause. The Contractor's warranty with respect to work repaired or replaced will run for 1 year from the date of repair or replacement.

3.1.5 The Government will notify the Contractor, in writing or by telephone, after the discovery of any failure, defect, or damage and the Contractor shall respond and be on-site to investigate the problem within 1 working day after notification. The Contractor shall furnish, and maintain, a 24 hour emergency telephone number as the point of contact. For failures, defects, or damage causing loss of power or heat, the Contractor shall respond and mitigate problem within 4 hours.

3.1.6 If the Contractor fails to remedy any failure, defect, or damage within 5 working days after receipt of notice, the Government will have the right to replace, repair, or otherwise remedy the failure, defect, or damage at the Contractor's expense.

3.1.7 With respect to all warranties, express or implied, from subcontractors, manufacturers, or suppliers for work performed and materials furnished under this contract, the Contractor shall:

- a. obtain all warranties that would be given in normal commercial practice;
- b. require all warranties to be executed, in writing, for the benefit of the Government, if directed by the Contracting Officer; and
- c. enforce all warranties for the benefit of the Government, if directed by the Contracting Officer.

3.1.8 In the event the Contractor's warranty under paragraph 3.1.2 of this clause has expired, the Government may bring suit at its expense to enforce a subcontractor's, manufacturer's, or supplier's warranty.

3.1.9 Unless a defect is caused by the negligence of the Contractor or subcontractor or supplier at any tier, the Contractor shall not be liable for the repair of any defects of material or design furnished by the Government nor for the repair of any damage that results from any defect in Government-furnished material or design.

3.1.10 This warranty shall not limit the Government's rights under the Inspection of Construction clause of this contract with respect to latent defects, gross mistakes, or fraud.

3.1.11 After final acceptance of the work, the Contractor shall furnish and install an Equipment Warranty Sticker on Contractor-installed equipment. (Same equipment as listed on the Equipment-In-Place List required under Section 01705 EQUIPMENT-IN-PLACE LIST). Lettering shall be block-type upper case and easily readable. Sticker shall be of a durable type material and of a type that can be written on. Sticker shall state the following:

- a. The title "Equipment Warranty."
- b. Contractor's name and Contract Number.
- c. Date warranty expires.
- d. Point of contact, including name and telephone number.
- e. Manufacturer.

END OF SECTION

SECTION 02220  
DEMOLITION

PART 1 GENERAL

1.1 GENERAL REQUIREMENTS

The work includes demolition, salvage of identified items and materials, and removal of resulting rubbish and debris.

1.2 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

ENGINEERING MANUALS (EM)

EM 385-1-1	(1996) U.S. Army Corps of Engineers Safety and Health Requirements Manual
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1.3 GENERAL REQUIREMENTS

The work includes demolition, salvage of identified items and materials, and removal of resulting rubbish and debris. Rubbish and debris shall be removed from the designated contractor work area daily, unless otherwise directed. Materials that cannot be removed daily shall be stored in areas specified by the Contracting Officer. In the interest of occupational safety and health, the work shall be performed in accordance with EM 385-1-1, Section 23, Demolition, and other applicable Sections. In the interest of conservation, salvage shall be pursued to the maximum extent possible; salvaged items and materials shall be disposed of as specified.

1.4 SUBMITTALS

Government approval is required for submittals with a "GA" designation; submittals having an "FIO" designation are for information only. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-08 Statements

Work Plan; GA.

The procedures proposed for the accomplishment of the work. The procedures shall provide for safe conduct of the work, including procedures and methods to provide necessary supports, lateral bracing and shoring when required, careful removal and disposition of materials specified to be salvaged, protection of property which is to remain undisturbed, coordination with other work in progress, and timely disconnection of utility services. The procedures shall include a detailed description of the methods and equipment to be used for each operation, and the sequence of operations in accordance with EM 385-1-1.

#### 1.5 DUST CONTROL

The amount of dust resulting from demolition shall be controlled to prevent the spread of dust to occupied portions of the construction site and to avoid creation of a nuisance in the surrounding area. Use of water will not be permitted when it will result in, or create, hazardous or objectionable conditions such as ice, flooding, or pollution.

#### 1.6 PROTECTION

##### 1.6.1 Protection of Personnel

During the demolition work the Contractor shall continuously evaluate the condition of the structure being demolished and take immediate action to protect all personnel working in and around the demolition site. No area, section, or component of structural elements will be allowed to be left standing without sufficient bracing, shoring, or lateral support to prevent collapse or failure while workmen remove debris or perform other work in the immediate area.

##### 1.6.2 Protection of Structures

Structural components that are designed and constructed to stand without lateral support or shoring, and are determined to be in stable condition, shall remain standing without additional bracing, shoring, or lateral support until demolished, unless directed otherwise by the Contracting Officer. The Contractor shall ensure that no elements determined to be unstable are left unsupported and shall be responsible for placing and securing bracing, shoring, or lateral supports as may be required as a result of any cutting, removal, or demolition work performed under this contract.

##### 1.6.3 Protection of Existing Property

Before beginning any demolition work, the Contractor shall survey the site and examine the drawings and specifications to determine the extent of the work. The Contractor shall take necessary precautions to avoid damage to existing items to remain in place, to be reused, or to remain the property of the Government or others; any damaged items shall be repaired or replaced as approved by the Contracting Officer. The Contractor shall coordinate the work of this section with all other work and shall construct and maintain shoring, bracing, and supports as required. The Contractor shall ensure that structural elements are not overloaded and shall be responsible for increasing structural supports or adding new supports as may be required as a result of any cutting, removal, or demolition work performed under this contract.

##### 1.6.4 Protection of Trees

Trees within the project site which might be damaged during demolition, and which are indicated to be left in place, shall be protected by a 6 foot high fence, barriers, or by other such means as the circumstances require. The fence or barrier shall be securely erected a minimum of 5 feet from the trunk of individual trees or follow the outer perimeter of branches or clumps of trees. Any tree designated to remain that is damaged during the



work under this contract shall be replaced in kind or as approved by the Contracting Officer.

1.6.5 Environmental Protection

The work shall comply with the requirements of Section 01061 ENVIRONMENTAL PROTECTION

1.7 BURNING

The use of burning at the project site for the disposal of refuse and debris will not be permitted.

1.8 USE OF EXPLOSIVES

Use of explosives will not be permitted.

1.9 AVAILABILITY OF WORK AREAS

Areas in which the work is to be accomplished will be available in accordance with the schedule set forth in 01320 PROJECT SCHEDULE. Work areas are shown on Plan Sheet G-4: Right-of-Way and Limits of Construction.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION

3.1 EXISTING STRUCTURES

The extent of the existing structural elements is shown in Plan Sheet C-1: Demolition Plan. Actual elevations and dimensions of existing structural elements may vary from the plan. "As-built" drawings of the dam are non-existent. Existing structures indicated shall be removed to a depth of 6 feet below the lowest workpoint, as described in 02300 EARTHWORK or shown on the drawings. Burial of large material in the fill areas will not be permitted.

3.2 UTILITIES

Existing utilities shall be removed as indicated. When utility lines are encountered that are not indicated on the drawings, the Contracting Officer shall be notified prior to further work in that area.

3.3 FILLING

Holes and other hazardous openings shall be filled in accordance with Section 02300 EARTHWORK.

3.4 DISPOSITION OF MATERIAL

Title to material to be demolished, except structure or timber designated as property of other, is vested in the Contractor upon receipt of notice to proceed. The Government will not be responsible for the condition, loss or damage to such property after notice to proceed.

### 3.4.1 Salvageable Items and Material

Contractor shall salvage items and material to the maximum extent possible.

#### 3.4.1.1 Material Salvaged for the Contractor

Material salvaged for the Contractor shall be stored as approved by the Contracting Officer and shall be removed from the designated storage areas before completion of the contract. Material salvaged for the contractor shall not be sold onsite.

#### 3.4.1.2 Material Salvaged for Simpson Timber Company

Contact: Jerry Ficklin  
Simpson Timber Company  
215 N. Third, P.O. Box 460  
Shelton, WA 98584  
360-427-4738

- a. Creosote Dam Timbers. The creosote timbers and piles that make up the dam are the property of Simpson Timber Company. They shall be dismantled, removed, and stockpiled in one of the project staging/stockpiling areas as approved by the Contracting Officer. The contractor shall notify Simpson Timber Company that the material is available for offsite removal. Special handling and storage of the creosote timbers is set forth in 01061 ENVIRONMENTAL PROTECTION.
- b. Fish Ladder. The lumber in the fish ladder is the property of Simpson Timber Company. It shall be dismantled, removed and stockpiled in one of the project staging/stockpiling areas as approved by the Contracting Officer. The contractor shall notify Simpson Timber Company that the material is available for offsite removal.
- c. Footbridge. The existing footbridge located east of the kiosk on the south bank is the property of Simpson Timber Company. It shall be dismantled, removed, and stockpiled in one of the project staging/stockpiling areas as approved by the Contracting Officer. The contractor shall notify Simpson Timber Company that the material is available for offsite removal.

#### 3.4.2 Unsalvageable Material

Any material not meeting the quality and/or gradation criteria will be disposed offsite in an approved landfill. All landfill fees and other costs associated with disposal are the responsibility of the Contractor.

### 3.5 CLEAN-UP

Debris and rubbish shall be removed and transported in a manner that prevents spillage on streets or adjacent areas. Local regulations regarding hauling and disposal shall apply.

-- End of Section --

SECTION 02230  
CLEARING AND GRUBBING

PART 1 GENERAL

1.1 GENERAL REQUIREMENTS

The work includes clearing, grubbing, and removal of debris in preparation for project earthwork and access roads.

1.2 DEFINITIONS

1.2.1 Clearing

Clearing shall consist of the felling, trimming, and cutting of trees into sections and the satisfactory disposal of the trees and other vegetation designated for removal, including down timber, snags, brush, and rubbish occurring in the areas to be cleared.

1.2.2 Grubbing

Grubbing shall consist of the removal and disposal of stumps, roots larger than 3 inches in diameter, and matted roots from the designated grubbing areas.

1.3 PROJECT SITE CONDITIONS

All temporary construction roads for use by the Contractor shall be approved, as to location, width, and alignment, by the Contracting Officer prior to construction. The contractor shall stake the limits of the proposed road and notify the government. The areas occupied by these roads will be restored as nearly as possible to preproject construction conditions by scarifying, grading, seeding and mulching in accordance with Section 02922 TYPE III VEGETATION - SEEDING.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION

3.1 WORK LIMITS

In general, the clearing and grubbing limits shall be up to, but not more than 5 feet beyond the limits of "the top of finished cut slope" and "top of finished fill slope" as indicated on the drawings. Large trees (having a diameter-breast-height greater than 18 inches) that are located within 5 feet of the clearing limit shall be flagged for approval by the Contracting Officer before removal. If additional clearing is required to access or install weir structures or bank protection, the Contractor shall receive prior approval by the Contracting Officer before proceeding.

3.1.1 Clearing Limits for Weir Structures Extending Beyond Cut/Fill Line

In areas where the weir structures extend beyond the "the top of finished cut slope" and "top of finished fill slope", the clearing and grubbing

limits for installation of weir structures shall be no more than is necessary to safely trench for placement of piles, panels and the weir cap.

### 3.1.2 Extended Clearing Limits on Right Bank

On the right bank, between stations 106+40 and station 113+20, and between stations 118+00 and station 122+15 the clearing (but not the grubbing) limits may be extended to 20 feet beyond the "the top of finished cut slope" and "top of finished fill slope" to facility access by equipment. Conifer trees having a diameter-breast-height greater than 8 inches that are located within this clearing limit shall not be removed without written approval by the Contracting Officer.

### 3.2 PREPARATION OF WORK

The Contractor shall notify the Contracting Officer in writing at least 7 calendar days prior to start of clearing the area. Existing significant vegetation to be preserved and protected within the project limits shall be clearly marked by flagging by the Contracting Officer prior to clearing operations.

### 3.3 CLEARING

Trees, stumps, roots, brush, and other vegetation in areas to be cleared shall be cut off flush with or below the original ground surface, except such trees and vegetation as may be indicated or directed to be left standing. Trees designated to be left standing within the cleared areas shall be trimmed of dead branches 1-1/2 inches or more in diameter. Limbs and branches to be trimmed shall be neatly cut close to the bole of the tree or main branches. Cuts more than 1-1/2 inches in diameter shall be painted with an approved tree-wound paint. Trees and vegetation to be left standing shall be protected from damage incident to clearing, grubbing, and construction operations by the erection of barriers or by such other means as the circumstances require. Clearing shall also include the removal and disposal of structures that obtrude, encroach upon, or otherwise obstruct the work, not specifically shown or designated to be conserved in Section 02220 DEMOLITION.

### 3.4 GRUBBING

Material to be grubbed, together with logs and other organic or metallic debris not suitable for foundation purposes, shall be removed to a depth of not less than 24 inches below the original surface level of the ground in areas indicated to be grubbed and in areas indicated as construction areas under this contract, such as areas where the weir structures and riprap bank protection will be located. Depressions made by grubbing shall be filled with suitable material and compacted to make the surface conform with the original adjacent surface of the ground.

### 3.5 TREE REMOVAL

Where indicated or directed, trees and stumps that are designated as trees shall be removed from areas outside those areas designated for clearing and grubbing. This work shall include the felling of such trees and the removal of their stumps and roots as specified in paragraph GRUBBING. Trees shall be disposed of as specified in paragraph DISPOSAL OF MATERIALS.

### 3.6 DISPOSAL OF MATERIALS

#### 3.6.1 Salable Timber

All felled timber from which saw logs, pulpwood, posts, poles, ties, mine props, or cordwood can be produced shall be considered as salable timber and is the property of Simpson Timber Company. Salable Timber shall be trimmed of limbs and tops, sawed into salable lengths, and stockpiled in a staging/stockpile area. The Contractor shall notify Simpson Timber Company that the material is available for offsite removal.

Contact:        Jerry Ficklin  
                 Simpson Timber Company  
                 215 N. Third, P.O. Box 460  
                 Shelton, WA 98584  
                 360-427-4738

#### 3.6.2 Rootwads and Logs

Cleared material that meets the requirements under Section 02940 ROOTWADS AND LOGS may be stockpiled and reused onsite. Use and placement of salvaged material shall be at the discretion of the Contracting Officer. The existing logjam across the stream at Station 105+00 shall not be disturbed.

#### 3.6.3 Materials Other Than Salable Timber and Usable Large Woody Debris

Logs, stumps, roots, brush, rotten wood, and other refuse from the clearing and grubbing operations, except for salable timber and large woody debris, shall be ground or chipped into mulch that will be used in the installation of Type I vegetation (SECTION 02920) or Type III vegetation (SECTION 02922). Mulch in excess of that required for Type I or Type III vegetation shall be stockpiled for use by others. Material that cannot be ground into mulch shall be disposed of offsite.

-- End of Section --

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SECTION 02300  
EARTHWORK

PART 1 GENERAL

1.1 DESCRIPTION

This item shall consist of excavation and placement of earthen and rock fills to achieve lines and grades at locations shown on the drawings. The Contractor shall salvage the required fill materials from on-site sources if there is insufficient material on site, the Contractor shall import additional suitable material on site. If there is excess material on the site, the contractor shall dispose of it offsite.

1.2 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM C 136	(1996a) Sieve Analysis of Fine and Coarse Aggregates
ASTM D 422	(1963; R 1998) Particle-Size Analysis of Soils
ASTM D 1140	(1997) Amount of Material in Soils Finer than the No. 200 (75-micrometer) Sieve
ASTM D 1556	(1990; R 1996) Density and Unit Weight of Soil in Place by the Sand-Cone Method
ASTM D 1557	(1998) Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/cu. ft. (2,700 kN-m/cu. m.))
ASTM D 2167	(1994) Density and Unit Weight of Soil in Place by the Rubber Balloon Method
ASTM D 2487	(1998) Classification of Soils for Engineering Purposes (Unified Soil Classification System)
ASTM D 3740	(1999) Evaluation of Agencies Engaged in the Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction
ASTM D 4318	(1998) Liquid Limit, Plastic Limit, and Plasticity Index of Soils

### 1.3 DEFINITIONS

#### 1.3.1 Satisfactory Materials

Satisfactory materials for common fill shall comprise any materials classified by ASTM D 2487 as GW, GP, GM, GP-GM, GW-GM, GC, GP-GC, GM-GC, SW, or SP, provided they contain moisture content suitable for the intended use and are free from roots and other organic matter, trash, debris, and frozen materials, and provided that the materials also meet the other requirements specified herein. Satisfactory materials for grading shall be comprised of stones less than 6 inches. Materials for special fills shall meet the gradation requirements outlined in the paragraph Special Fills.

#### 1.3.2 Unsatisfactory Materials

Man-made fills, trash, refuse, backfills from previous construction, and materials which do not comply with the above requirements for satisfactory materials shall be classified as unsatisfactory. The Contracting Officer shall be notified of any contaminated materials.

#### 1.3.3 Cohesionless and Cohesive Materials

Cohesionless materials include materials classified in ASTM D 2487 as GW, GP, SW, and SP. Cohesive materials include materials classified as GC, SC, ML, CL, MH, and CH. Materials classified as GM and SM will be identified as cohesionless only when the fines are nonplastic. Testing required for classifying materials shall be in accordance with ASTM D 4318, ASTM C 136, ASTM D 422, and ASTM D 1140.

#### 1.3.4 Degree of Compaction

Degree of compaction required is expressed as a percentage of the maximum density obtained by the test procedure presented in ASTM D 1557 abbreviated as a percent of laboratory maximum density.

#### 1.3.5 Topsoil

On-site topsoil shall be existing surface sandy silty material which has been stripped, stockpiled, and treated in accordance with paragraph 3.1 of this Section. Topsoil shall be free from debris, noxious weeds, toxic substances, or any other material that may be harmful to plant growth and shall consist of soil materials obtained from the upper 6 inches of the soil profile following clearing and grubbing operations

Topsoil shall not incorporate root wads from small brush and grasses. Potential source areas for topsoil are all areas requiring stripping, grubbing, and excavation, or fill placement requiring topsoil removal as shown in the Plans.

### 1.4 SUBMITTALS

Government approval is required for submittals with a "GA" designation; submittals having an "FIO" designation are for information only. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:



SD-09 Reports

Field Testing; GA.

Test results within 24 hours of conclusion of physical tests, including calibration curves and results of calibration tests.

SD-13 Certificates

Field Testing; GA.

Qualifications of the commercial testing laboratory or Contractor's testing facilities.

1.5 SUBSURFACE DATA

Subsurface soil boring logs and profiles collected by geophysical methods are shown on the drawings. These data represent the best subsurface information available; however, variations may exist in the subsurface between boring locations.

1.6 CLASSIFICATION OF EXCAVATION

The uppermost materials encountered in the project area consist of fluvial sediments composed of sand with gravels and silt. Upstream of the dam, the materials consist of loose to medium dense, clean to silty sand and gravel with some pockets or interbeds of fined grain materials and peat. Downstream of the dam, the material consists of a medium dense to dense silty or clayey sandy gravel. Underlying both gravel units is a very stiff to hard overconsolidated silt known as the "Kitsap Formation". A portion of the Kitsap formation is exposed on the north bank of the stream just downstream of the dam and fishladder. Excavations within the project will encounter this material and a sufficient quantity shall be separated and stockpiled for use as a low permeability fill as described in PART 2 and PART 3 of this specification. Any of this material that is unused in construction of the project will be removed offsite. With the exception of the separate handling for the Kitsap, no other consideration will be given to the nature of the materials, and all excavation will be designated as common excavation.

1.7 BLASTING

Blasting will not be permitted.

1.8 UTILIZATION OF EXCAVATED MATERIALS

Satisfactory material removed from excavations shall be used, insofar as practicable, in the construction of fills, embankments, bedding (as backfill), and for similar purposes. Excess materials and unsatisfactory materials removed from excavations shall be disposed of offsite. No excavated material shall be disposed of to obstruct the flow of any stream, endanger a partly finished structure, impair the efficiency or appearance of any structure, or be detrimental to the completed work in any way.

## PART 2 PRODUCTS

### 2.1 SPECIAL FILLS

#### 2.1.1 Stream Cobble Layer

As shown on the drawings, the finished streambed is to be covered with a cobble layer 2 feet deep. The layer shall consist of a screened gravel/cobble mix meeting the following gradation. Material removed from the existing streambed may be used or mixed with imported material providing the finished product meets the gradation requirement.

U.S. Standard Sieve Sizes	Percent Passing	
	Min	Max
6 inches	100	100
4 inches	50	75
3 inches	40	50
2 inches	25	40
1 inch	15	25
1/2 inch	5	15
1/4 inch	0	0

#### 2.1.2 Low Permeability Fill

Low permeability fill shall consist of a mixture of common fill and at least 30% by weight of excavated Kitsap Formation material.

#### 2.1.3 Miscellaneous Fill

Miscellaneous fill shall consist of common fill and is used to cover exposed riprap.

## PART 3 EXECUTION

### 3.1 STRIPPING AND CONSERVATION OF TOPSOIL

Within the areas to be cleared, any available topsoil shall be stripped to a depth of 6 inches and shall be transported and stored in one of the existing staging/stockpiling areas. The contractor shall set aside up to 400 cubic yards for use by others. The remainder shall be used in covering bank revetment as specified in Section 02380 RIPRAP. Topsoil shall be kept separate from other excavated materials, brush, litter, objectionable weeds, roots, stones larger than 1-1/2 inches in diameter, and other materials that would interfere with planting and maintenance operations.

### 3.2 GENERAL EXCAVATION

After clearing, grubbing, and stripping of topsoil is complete the Contractor shall perform excavation of every type of material encountered within the limits of the project to the lines, grades, and elevations indicated and as specified. Grading shall be in conformity with the typical sections shown and the tolerances specified in paragraph FINISHING. Satisfactory excavated materials shall be transported to and placed in fill

or embankment within the limits of the work. Compaction shall be in conformity with paragraph COMPACTION. Cohesive material to be reused shall be stockpiled within the staging/stockpiling areas shown on the drawings. Unsatisfactory materials encountered within the limits of the work shall be excavated 2 feet below grade and replaced with satisfactory materials as directed. Such excavated material and the satisfactory material ordered as replacement shall be included in excavation. Surplus satisfactory excavated material not required for fill or embankment and unsatisfactory material shall be disposed of offsite. During construction, excavation and fill shall be performed in a manner and sequence that will provide proper drainage at all times. Material required for fill or embankment in excess of that produced by excavation within the grading limits shall be imported from other approved areas selected by the Contractor as specified.

### 3.2.1 Channel Changes

Excavation of channel changes shall be accomplished by cutting accurately to the cross sections, grades, and elevations shown. Excessive excavation shall be backfilled with satisfactory, thoroughly compacted, material or with suitable stone or cobble to grades shown. Material excavated shall be disposed of as shown or as directed, except that in no case shall material be deposited less than 4 feet from the edge of a ditch. The Contractor shall maintain excavations free from detrimental quantities of leaves, brush, sticks, trash, and other debris until final acceptance of the work.

### 3.2.2 Weir Structures

Excavations shall be made to the lines, grades, and elevations shown, or as directed. Trenches shall be of sufficient size to permit driving of piles, placement of concrete panels (or alternative lagging), and placement and removal of forms, and placement of cast-in-place concrete as shown. Rock or other hard foundation material shall be cleaned of loose debris and cut to a firm, level, stepped, or serrated surface.

## 3.3 DRAINAGE AND DEWATERING

### 3.3.1 Drainage

Surface water shall be directed away from excavation and construction sites so as to prevent erosion, deteriorating foundation conditions, and undermining of foundations. Diversion ditches, dikes, and grading shall be provided and maintained as necessary during construction. Excavated slopes and backfill surfaces shall be protected to prevent erosion and sloughing. Excavation shall be performed so that the site and the area immediately surrounding the site and affecting operations at the site shall be continually and effectively drained.

### 3.3.2 Drainage of Groundwater

Groundwater flowing toward or into the newly excavated streambed or trenching for placement of structures and riprap shall be controlled to prevent sloughing of excavation slopes and walls, boils, uplift and heave in the excavation and to eliminate interference with orderly progress of construction. Control measures shall be taken by the time the excavation reaches the water level in order to maintain the integrity of the in situ material. While the excavation is open, the water level shall be maintained

continuously below the working level. The excavation shall be drained by pumping or other satisfactory methods to prevent softening of the foundation bottom, undercutting of weir structures (including forms, precast concrete panels, cast in place concrete, or piles) or other actions detrimental to proper construction. Dewatering shall be performed in accordance with Permit information listed in Section 01001 SUPPLEMENTARY REQUIREMENTS and the requirements in Section 01061 ENVIRONMENTAL PROTECTION.

### 3.4 FILL

#### 3.4.1 Common Fill

Common fill consisting of satisfactory material shall be used for all fills except those areas where low permeability fill, stream cobble layer, miscellaneous fill, or riprap is called for as shown on the drawings. Common fill shall be placed in lifts no more than 8" in depth and each lift shall be compacted as listed in Paragraph COMPACTION.

#### 3.4.2 Structural Backfill

Structural backfill shall be placed within the trenches cut into bed and banks for pile driving or weir construction. In addition, structural backfill shall be placed adjacent to the piles and panels within the weir structures according to the dimensions shown on the drawings. Fill shall be placed in lifts no more than 8" in depth and each lift shall be compacted as listed in Paragraph COMPACTION to prevent wedging action or eccentric loading upon or against the weir structures. Ground surface on which backfill is to be placed shall be prepared as specified in paragraph PREPARATION OF GROUND SURFACE FOR EMBANKMENTS AND FILLS. Compaction requirements for backfill materials shall also conform to the applicable portions of paragraphs COMPACTION.

#### 3.4.3 Low Permeability Backfill

Low permeability backfill shall be prepared by thoroughly mixing a satisfactory material with the excavated Kitsap Formation material previously described. Prior to mixing, the excavated Kitsap Formation material shall be broken into pieces no larger than 1 inch in diameter. The prepared material shall be placed in lifts no more than 8" in depth and each lift shall be compacted as listed in Paragraph COMPACTION.

#### 3.4.4 Miscellaneous Fill

Miscellaneous fill shall be placed as shown on the drawings and as described in Section 02380 RIPRAP.

### 3.5 PREPARATION OF GROUND SURFACE FOR EMBANKMENTS AND FILLS

#### 3.5.1 General Requirements

- a. Ground surface on which fill is to be placed shall be stripped of live, dead, or decayed vegetation, rubbish, debris, and other unsatisfactory material as described in Section 02230 CLEARING AND GRUBBING.
- b. Unsatisfactory materials encountered within the limits of the work shall be excavated 2 feet below grade and replaced with satisfactory materials as directed.
- c. Sloped ground surface steeper than four horizontal to one vertical on which fill or embankment is to be placed shall be plowed, stepped, or benched, or broken up as directed in such a manner that the fill or embankment material will bond with the existing surface
- d. Side slopes of the existing stream channel to be filled shall be excavated as necessary to permit powered compaction equipment (not manually operated) to compact the ground surface.
- e. The surface shall be plowed, disked, scarified or otherwise broken up to a depth of 6 inches and shall be thoroughly mixed.
- f. The surface moistened or aerated as required just prior to placement to assure an adequate bond between fill or embankment material and the prepared ground surface.
- g. Fill or embankment material shall not be placed on a foundation which contains frozen material, or which has been subjected to freeze-thaw action. Fill or embankment material shall not contain frozen clumps of soil, snow, or ice. The Contracting Officer will determine when placement of fill shall cease due to cold weather.

### 3.6 CONSTRUCTION OF FILLS AND EMBANKMENTS

Earthen fills and embankments shall be constructed from satisfactory materials free of organic or frozen material and rocks with any dimension greater than 6 inches. The material shall be placed in successive horizontal layers of loose material not more than 12 inches in depth. Each layer shall be spread uniformly on a soil surface that has been moistened or aerated as necessary, and scarified or otherwise broken up so that the fill will bond with the surface on which it is placed. After spreading, each layer shall be plowed, disked, or otherwise broken up; moistened or aerated as necessary; thoroughly mixed; and compacted to at least 90 percent laboratory maximum density for cohesive materials or 95 percent laboratory maximum density for cohesionless materials.

### 3.7 COMPACTION

Each layer of the fill or embankment shall be compacted with approved construction equipment. Compaction shall be accomplished by sheepfoot rollers, pneumatic-tired rollers, steel-wheeled rollers, vibratory compactors, or other approved equipment well suited to the type of material

being compacted. Material shall be moistened or aerated as necessary to provide the moisture content that will readily facilitate obtaining the specified compaction with the equipment used. Each layer of fill and backfill shall be compacted to not less than the percentage of maximum density specified below.

Compaction - Percent Laboratory Maximum Density

Material	Compaction	
	Cohesive	Non-Cohesive
Common Fill	85	90
Structural Backfill	90	95
Low Permeability Material	85	90
Miscellaneous Fill	85	90

Compaction shall be tested in accordance with ASTM D 1557 for the compaction percentages in the table. Approved compacted subgrades that are disturbed by the contractors operation or adverse weather shall be scarified and compacted as specified herein prior to further construction thereon.

3.8 FINISHING

The surface of excavations, embankments, and subgrades shall be finished to a smooth and compact surface in accordance with the lines, grades, and cross sections or elevations shown. The degree of finish for graded areas shall be within 3 inches of the grades and elevations indicated on the drawings. Gutters and ditches shall be finished in a manner that will result in effective drainage.

3.9 FIELD TESTING CONTROL

Field testing shall be performed by an approved commercial testing laboratory (ASTM D 3740).

Field in-place density shall be determined in accordance with ASTM D 2167 or ASTM D 1556. Inspections and test results shall be certified by a registered professional civil engineer. These certifications shall state that the tests and observations were performed by or under the direct supervision of the engineer and that the results are representative of the materials or conditions being certified by the tests. The minimum number of tests, acceptable for each type of operation shall be in accordance with Section 01451, CONTRACTOR QUALITY CONTROL.

When field density tests indicate, as determined by the Contracting Officer, that density does not meet specifications, a second field density test and a corresponding laboratory quality control test shall be performed at no additional cost to the Government. The location of the second field density test shall be in the same lift and within 10 feet of the first test and along the direction of travel of the compacting equipment. Should the second field density test also indicate insufficient density, filling or backfilling shall cease in the affected area until all deficiencies have been corrected. Inadequate materials shall be removed, reworked, replaced, and recompacted to specified requirements at no cost to the Government.

Tests on recompacted areas shall be performed to determine conformance with specification requirements.

3.10 PROTECTION

During construction, fills, excavations, and embankments shall be kept shaped and drained. Newly graded areas shall be protected from traffic and erosion, and any settlement or washing away that may occur from any cause, prior to acceptance, shall be repaired and the grades re-established to required elevations and slopes. All work shall be conducted in accordance with the requirements in Section 01061 ENVIRONMENTAL PROTECTION.

-- End of Section --

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SECTION 02378  
FILTER FABRIC

PART 1 GENERAL

1.1 DESCRIPTION

This item shall consist of furnishing and installing non-woven synthetic geotextile fabric under rock, to act as a filter liner between the rock and smaller base materials, at locations as shown in the drawings.

1.2 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM D 123	(1993a) Standard Terminology Relating to Textiles
ASTM D 3786	(1987) Hydraulic Bursting Strength of Knitted Goods and Nonwoven Fabrics - Diaphragm Bursting Strength Tester Method
ASTM D 4355	1992) Deterioration of Geotextile from Exposure to Ultraviolet light and Water (Xenon-Arc Type Apparatus)
ASTM D 4491	(1992) Water Permeability of Geotextiles By Permittivity
ASTM D 4533	(1991) Trapezoid Tearing Strength of Geotextile
ASTM D 4632	(1991) Grab Breaking Load and Elongation of Geotextiles
ASTM D 4751	(1993) Determining the Apparent Opening Size of a Geotextile
ASTM D 4833	(1988) Index Puncture Resistance of Geotextiles, Geomembranes, and Related Products
ASTM D 4873	(1988) Guide for Identification, Storage, and Handling of Geotextiles

1.3 SUBMITTALS

Government approval is required for all submittals with a "GA" designation; submittals having an "FIO" designation are for information only. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-13 Certificates

Filter Fabric; FIO.

The Contractor shall submit a certification of the filter fabric material from the manufacturer.

1.4 SHIPMENT, HANDLING, AND STORAGE

Only approved filter fabric rolls shall be delivered to the project site. All filter fabric shall be labeled, shipped, stored, and handled in accordance with ASTM D 4873. No hooks, tongs, or other sharp instruments shall be used for handling filter fabric.

PART 2 PRODUCTS

2.1 FILTER FABRIC

The Filter fabric shall be a non-woven synthetic geotextile fabric to act as a filter liner between rock and smaller size materials, as defined by ASTM D 123. The fabric shall be constructed from long chain polymeric filament or yarns such as polypropylene, polyethylene, polyester, nylon, polyvinylidene chloride or polyamide formed into a stable network such that the filaments or yarns retain their relative position to each other. The fabric shall be inert to commonly encountered chemicals and shall be free from defects. Non-woven fabric may be formed by the needle-punched, spun-bonded or heat-bonded process. The filter fabric shall equal or exceed the minimum average roll values listed in TABLE 1, MINIMUM PHYSICAL REQUIREMENTS FOR FILTER FABRIC. Strength values indicated in the table are for the weaker principal direction.

TABLE 1  
MINIMUM PHYSICAL REQUIREMENTS FOR FILTER FABRIC

PROPERTY	UNITS	ACCEPTABLE VALUES	TEST METHOD
GRAB STRENGTH	lb	200	ASTM D 4632
PUNCTURE	lb	130	ASTM D 4833
BURST STRENGTH	psi	400	ASTM D 3786
TRAPEZOID TEAR	lb	80	ASTM D 4533
PERMEABILITY	cm/sec	5	ASTM D 4491
APPARENT OPENING SIZE	U.S. SIEVE	100	ASTM D 4751
PERMITTIVITY	sec -1	1.5	ASTM D 4491
ULTRAVIOLET DEGRADATION	Percent	50 AT 500 Hrs	ASTM D 4355

PART 3 EXECUTION

3.1 SURFACE PREPARATION

Surface on which the filter fabric will be placed shall be prepared, to a relatively smooth surface condition, in accordance with the applicable portion of this specification and shall be free from obstruction, debris, depressions, erosion feature, or vegetation. Any irregularities will be removed so as to insure continuous, intimate contact of the filter fabric with all the surface. Any loose material, soft or low density pockets of material, will be removed; erosion features such as rills, gullies etc. must be graded out of the surface before filter fabric placement.

3.2 INSTALLATION OF THE FILTER FABRIC

3.2.1 General

At the time of installation, the filter fabric shall be rejected if it has defects, rips, holes, flaws, deterioration or damage incurred during manufacture, transportation or storage.

3.2.2 Placement

The filter fabric shall underlie all riprap used as bank protection and shall be placed in the manner and at the locations shown in the drawings. Filter fabric shall be placed with the long dimension parallel to the centerline of the channel and laid smooth and free of tension, stress, folds, wrinkles, or creases. The strips shall be placed to provide a minimum width of 18 inches of overlap for each joint. The Contractor shall adjust the actual length of the filter fabric used based on initial installation experience. Temporary pinning of the filter fabric to help hold it in place until the riprap is placed shall be allowed. The temporary pins shall be removed as the riprap is placed to relieve high tensile stress which may occur during placement of material on the filter fabric. Trimming shall be performed in such a manner that the filter fabric shall not be damaged in any way.

3.2.3 Anchoring

The edges of the filter fabric shall be anchored as shown on the drawings. Edge anchoring shall be reviewed by the Engineer prior to covering.

3.2.4 Repairing Tears

If the filter fabric should be torn for any reason during installation of riprap, the contractor will take the following steps to repair it. Fabric repairs shall be at the Contractor's expense.

- a) The aggregate material shall be cleaned from the fabric.
- b) The torn area shall be overlain with new fabric with a minimum 24 inches overlap around the edges of the torn area.
- c) Riprap shall be replaced in a manner that does not displace the patch or further tear the fabric.

### 3.3 PROTECTION

The filter fabric shall be protected at all times during construction from contamination by surface runoff and any filter fabric so contaminated shall be removed and replaced with uncontaminated filter fabric. Any damage to the filter fabric during its installation or during placement of riprap shall be replaced by the Contractor at no cost to the Government. The work shall be scheduled so that the covering of the filter fabric with a layer of the specified material is accomplished within 7 calendar days after placement of the filter fabric. Failure to comply shall require replacement of filter fabric. The filter fabric shall be protected from damage prior to and during the placement of riprap or other materials. Before placement of riprap or other materials, the Contractor shall demonstrate that the placement technique will not cause damage to the filter fabric. In no case shall any type of equipment be allowed on the unprotected filter fabric.

-- End of Section --

SECTION 02380  
RIPRAP

## PART 1 GENERAL

## 1.1 DESCRIPTION

This work shall consist of (1) furnishing and placing stone riprap for use as bank revetment and filters as shown on the drawings, (2) furnishing and placing quarry run stone for use in subsurface scour protection as shown on the drawings.

## 1.2 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

## AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM C 127	(1988; R 1993) Specific Gravity and Absorption of Coarse Aggregate
ASTM D 3740	(1996) Minimum Requirements for Agencies Engaged in the Testing and/or Inspection of Soil and Rock Used in Engineering Design and Construction
ASTM D 4992	(1994) Evaluation of Rock to be Used for Erosion Control
ASTM E 548	(1994) General Criteria Used in Evaluating Laboratory Competence

## CORPS OF ENGINEERS (COE)

COE CRD-C 107	(1988; R 1993) Specific Gravity and Absorption of Coarse Aggregate ASTM C 127
COE CRD-C 148	(1969) Method of Testing for Expansive Breakdown on Soaking in Ethylene Glycol available online at <a href="http://www.wes.army.mil/SL/MTC/handbook/handbook.htm">http://www.wes.army.mil/SL/MTC/handbook/handbook.htm</a>

## ENGINEERING MANUALS (EM)

EM 1110-2-1601	(1994) Hydraulic Design of Flood Control Channels. The manual is available online at <a href="http://www.usace.army.mil/inet/usace-docs/eng-manuals/em1110-2-1601/toc.htm">http://www.usace.army.mil/inet/usace-docs/eng-manuals/em1110-2-1601/toc.htm</a>
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### 1.3 SUBMITTALS

Government approval is required for all submittals with a "GA" designation; submittals having an "FIO" designation are for information only. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES

#### SD-01 Data

##### Stone; GA

Submit the source for stone materials used in riprap and filters.  
Submit the source for quarry run stone for subsurface scour protection.

#### SD-09 Reports

##### Evaluation Tests; GA.

Quality test on the stone in accordance with PART 2, paragraph 2.1 - Evaluation of Testing of Stone shall be the responsibility of the Contractor. Submit a copy of the test reports.

##### Gradation Test; GA.

Submit the gradation tests using the GRADATION TEST DATA SHEET enclosed at end of this section for stone used as riprap and for filter materials.

#### SD-13 Certificates

##### Stone; FIO.

Submit certificates of compliance attesting that the riprap, filter, and quarry run stone materials meet specification requirements.

##### Laboratory; GA.

Submit a copy of the documents, provided by the Materials Testing Center (MTC) at CEWES or by Mr. Jim Hinds at telephone (503) 808-4846, that validates that the laboratory can perform the required tests. The individual tests shall be listed for which the validation covers along with the date of the inspection.

### 1.4 QUARRY

It is the Contractor's responsibility to determine that the stone source or combination of sources selected is capable of providing the quality, quantities, and gradation needed and at the rate needed to maintain the scheduled progress of the work. The Contractor shall be responsible for all arrangements for quarry permits and right-of way, for adequate investigation, and exploration, and for selection, development, and operation of the quarry to supply stones for this contract of the weight, size, and quality specified herein.

## 1.5 GOVERNMENT TESTING

### 1.5.1 Stone Sources

The acceptability of stone will be determined by existing laboratory tests, geologic examination, and/or sampling and laboratory testing. Contractor shall submit quarry test results from a laboratory that has been validated by the Corps of Engineers, in accordance with the tests specified herein and which are representative of the stone to be used on the project. The Contractor shall submit laboratory test documentation to the Contracting Officer within 90 days of receipt of Notice to Proceed. Such tests will be evaluated to determine if stones from the selected source can meet quality standards as hereinafter specified. No laboratory stone testing will be performed at Government expense prior to and after award of the contract.

### 1.5.2 Evaluation Testing of Stone

In the event existing satisfactory laboratory test results are not available, the material shall be subjected to the tests outlined in these specifications to determine the acceptability for use in the project. Contractor shall have the option to test representative quarry samples at the Materials Testing Center (MTC) at the U.S. Army Waterways Experiment Station in Vicksburg, MS or at one or more Corps of Engineers validated commercial laboratories that have been designated to perform the required test(s). Not all commercial labs are validated for all tests.

#### 1.5.2.1 Validation of Commercial Materials Testing Laboratories by MTC

Commercial laboratory selected by the Contractor to perform the required testing shall be validated based on compliance with ASTM E 548 and relevant paragraphs of ASTM D 3740, and no work requiring testing shall be permitted until the laboratory has been inspected and validated. The "Laboratory Inspection Information Request" form with pertinent addresses and phone numbers is available on the World Wide Web at internet address:

<http://www.wes.army.mil/SL/MTC/inspection.htm> (letters are case sensitive).

See Part I, Paragraph 1.3 SUBMITTALS, subparagraph Certificates. Contractor shall be aware that the process to arrange for validation of a materials testing laboratory through the MTC; the time to conduct the laboratory validation inspection and write the report; the time to coordinate and prepare the validation certificate; and the time to complete the specified laboratory testing may range from 6 to 12 weeks duration. Also, Contractor shall be aware that the MTC does not certify nor does it provide any accreditation to laboratories. The MTC conducts inspections to validate the capability of a laboratory to perform specific tests as required by contract with the U.S. Army Corps of Engineers. Contractor shall be responsible for the cost of laboratory validation conducted through the MTC. Contractor should budget, at a minimum, \$2,000 for this process. No materials testing nor laboratory validation inspections will be performed at Government expense.

### 1.5.3 Stone Sampling

Representative samples of stone from one or more quarries shall be collected by a representative of the Quarry under the supervision of the Contracting Officer for testing and acceptance prior to delivery of stone from quarry source to the site of the work. Information to be provided with the samples shall include the location within the quarry from which the sample was taken along with a field examination of the quarry. The field examination shall include the information outlined in ASTM D 4992, paragraph 7. A sample of stone is defined as 5 to 7 pieces roughly cubical in shape, with each single piece weighing between 70 and 100 pounds, and total cumulative weight of approximately 500 pounds. A separate quarry sample shall be made for each different stone type. Shipped materials shall be identified as follows:

Project: Goldsborough Creek Restoration Project

Mason County, WA

Contract Number: DACW67-00-C-\_\_\_\_\_

Contractor's Name: \_\_\_\_\_

CENWS Point of Contact: Bill Brooker (ACO) at (253) 964-2969 (ext 131)

Quantity of Material Enclosed (No. of Sacks/Pallets)

Quarry Source Name and Location including 1/4, 1/4, Section, Township, Range

#### 1.5.3.1 Samples to MTC

For stone samples being tested at the MTC Contractor shall ship sample(s) at its expense directly to Waterways Experimental Station, Structures Laboratory, 3909 Halls Ferry Road, Vicksburg, MS 39180, Attn: Mr. Joe Tom (601) 634-3278. The ACO shall be notified to arrange for testing at least 20 workdays before the stone leaves the quarry. The Contractor should contact the MTC to determine the budget required for each suite of stone test specified herein

#### 1.5.3.2 Optional Commercial Laboratories

Contractor shall have the option to ship samples at its expense to one or more commercial materials testing laboratory which have been validated by the Corps of Engineers to perform the specified tests herein. Also, Contractor shall have the option to employ one or more of the currently validated laboratories located throughout the United States. Point of Contact pertaining to a list of current validated materials testing laboratories is Project Manager, Mr. Michael Padilla at telephone (206) 764-6734.

#### 1.5.4 Acceptance of Materials

Acceptance of a source of stone is not to be construed as acceptance of all material from that source. The right is reserved to reject materials from certain localized areas, zones, strata, or channels, when such materials are unsuitable for stone as determined by the Contracting Officer. The Contracting Officer also reserves the right to reject individual units of produced specified materials in stockpiles at the quarry, all transfer points, and at the project construction site when such materials are determined to be unsuitable. Inspection for acceptance of individual stones will be at the project construction site. If the Contracting Officer, during the inspections, finds that the stone quality, gradation or weights of stone being furnished are not as specified or are questionable, re-sampling and re-testing by the Contractor will be required. Sampling of the delivered stone for testing and the manner in which the testing is to be performed shall be



as directed by the Contracting Officer. This additional sampling and testing shall be performed at the Contractor's expense when test results indicate that the materials do not meet specified requirements. When test results indicate that materials meet specified requirements, an equitable adjustment in the contract price will be made for the sampling and testing. Any material rejected shall be removed or disposed of as specified and at the Contractor's expense.

#### 1.5.5 Failure and Breakage of Stones

No material or stone shall be placed until those materials have been approved by the Contracting Officer for use. Any stone broken during handling or placing will be subject to reclassification. Broken pieces shall be removed to a section for which the new sizes are appropriate. If an appropriate section is not available, the broken pieces shall be removed from the site of work and no payment made therefor. Any stone heavier than maximum weight for particular section may be placed in that section. No contract extension will be granted because materials fail to meet the specification requirements. Stone failing to meet the specified requirements will be removed from the site of work at no additional cost to the Government.

## PART 2 PRODUCTS

### 2.1 EVALUATION TESTING OF STONE

Where previous testing and service records satisfactory to the Contracting Officer are unavailable, representative samples of Type I, Type II, and Type III riprap (see Paragraph 2.3.2) from proposed sources selected in the presence of the Contracting Officer, shall be submitted for testing as the Contracting Officer shall direct.

- a. Such tests shall include but not be limited to bulk specific gravity (SSD), unit weight, absorption (COE CRD-C 107 or ASTM C 127) and expansive breakdown on soaking in Ethylene Glycol (COE CRD-C 148).
- b. Such tests and service records will be evaluated to help determine if stone from the given source can meet quality standards specified herein. Government will notify Contractor of unsatisfactory documentation within 35 days after submittal has been received. Should the Contractor's documentation not include recent (less than 3 years old) satisfactory test results, or fail in any way to satisfy the CO, samples of the stone proposed for use shall be selected in the presence of the CO and delivered by the Contractor to a Government validated laboratory.
- c. All costs for delivery and testing shall be the Contractor's expense. Samples shall be selected according to paragraph 1.5.3 - Stone Sampling and delivered to the laboratory with 10 days after receipt of notification of insufficient or unsatisfactory documentation.
- d. Satisfactory Contractor documentation or laboratory test results on stone samples will not constitute approval of all stone in the quarry and will not in any way change the Contractor's responsibility for obtaining and developing a satisfactory source of stone.
- e. Throughout duration of this contract, the Government may sample and test stone delivered to the work site and proposed for use in construction.

- f. No contract extension will be granted for specified submittal and testing time or because materials fail to meet the specifications. Stone failing to meet the specified requirements will be removed from the off loading facility and the worksite at no additional cost to the Government.
- g. No riprap shall be placed until the stone has been approved for use.

## 2.2 STONE QUALITY

Each piece of stone accepted for use shall be composed of hard, strong, durable materials that will not slake or deteriorate on exposure to the action of water or atmosphere. Stone shall be clean and angular, and longest dimension of any stone shall not exceed three times the shortest dimension. Stone shall be free of expansive or other materials that could cause accelerated deterioration by exposure to project climatic conditions. Stone shall be free of cracks, blast fractures, bedding, seams and other defects that would tend to increase its deterioration from natural causes. Inspections for cracks, fractures, seams, bands of minerals, deleterious materials, and defects shall be made by visual examination. A hairline crack that is defined as being detrimental shall have a minimum width of 0.1 mm and shall be continuous for one-third the dimension of at least two sides of the stone. Stone shall be free of bands of minerals and deleterious materials that would result in breakage or reduction of specified stone weights or dimensions during or after placement. Each stone shall have sufficiently uniform physical properties throughout so that all portions of the stone will meet the specified test requirements. Weak or inferior-appearing portions of any non-uniform type stone will be subjected to testing necessary to determine that the stone will not be susceptible to splitting or differential weathering. Any stone containing an inferior stone material portion that does not meet the specified test requirements will be rejected as unsatisfactory for construction. Igneous flow breccia and volcanic breccia and sedimentary rocks have not performed well as revetment and are considered unsuitable.

### 2.2.1 Specific Gravity and Absorption

All stone for riprap and filter material shall have a minimum bulk specific gravity, saturated surface dry (SSD), of 2.60 and a maximum bulk specific gravity of not more than 2.90 based upon water having a unit weight of 62.4 pounds per cubic foot. The stone shall have an absorption less than 3 percent unless other tests and service records show that the stone is satisfactory.

Specific gravity and absorption will be determined in accordance with ASTM C 127 (COE CRD-C 107), modified as follows: the test sample will consist of about 5,000 grams of generally cubical pieces of stone passing the 2-inch and retained on the 1-1/2 inch standard square mesh sieve sizes. Test pieces will be laboratory prepared by jaw crushing and chipping. Test method permits a variance in reproduction of test results of 0.02 in BSSD specific gravity and 0.05 percent in percentage of absorption. This variance in specific gravity is equivalent to a variance of plus-or-minus 1.2 pounds per cubic foot in unit weights computed from the specific gravity.

### 2.2.2 Expansive Breakdown on Soaking in Ethylene Glycol

Accelerated Expansion (15 Days): The test sample will be tested in accordance with COE CRD-C 148 except as herein specified. Testing procedure for sample size in COE CRD-C 148 will be modified as follows: The test sample will be from 4,950 grams (10.83 pounds) to 5,050 grams (11.05 pounds) of 1-1/2 inch to 2 inch pieces. Test results will be computed by dividing the number of pieces that breakdown by the number of pieces in the original test sample. Failure or breakdown is defined as any piece separating into two or more pieces or losing sufficient surface material to allow it to pass through the 1-1/2 inch sieve. Maximum allowable breakdown is 10 percent over a period of 15 days. Weight loss based on the original oven dry weight will be recorded.

## 2.3 RIPRAP

### 2.3.1 General

Riprap is defined as a stone material having a gradation band similar to those specified in EM 1110-2-1601, Chapter 3, uniform graded material. Riprap is normally produced by mechanical methods, with a jaw crusher and grizzly after the stone has been mined by blasting in a quarry. Riprap gradations have a maximum top size of 4 tons. Riprap shall be sound, durable, angular quarried stone and shall be of a suitable quality to ensure permanence in the structure and in the climate in which it is to be used. It shall be free from cracks, blast fractures, bedding, seams and other defects that would tend to increase its deterioration from natural causes. The riprap shall be clean and adequately free from all foreign matter. Any foreign material adhering to or combined with the stone as a result of stockpiling shall be removed prior to placement.

### 2.3.2 Riprap Designations

Riprap designated as "Type I" is for use as bank protection in combination with fabric wrapped reinforced soil lifts as described in Section 02960 FABRIC WRAPPED SOIL LIFTS. Riprap designated as "Type II" riprap is intended for use as bank protection material in all straight reaches and on the inside of channel bends. Riprap designated as "Type III" is intended for use on the outside of channel bends as shown in the drawings.

### 2.3.3 Riprap Testing Requirements

All Type I, Type II, and Type III riprap that is delivered to the jobsite and incorporated into the project shall meet the quality and testing requirements as described under paragraphs 2.1 - Evaluation Testing of Stone, and 2.2 - Stone Quality (including all subparagraphs). The tests shall be conducted by the Contractor in accordance with applicable ASTM and Corps of Engineers methods of tests given in the Handbook for Concrete and Cement, and shall be performed at Waterways Experiment Station or a laboratory validated by the Corps of Engineers.

### 2.3.4 Riprap Gradation

Riprap shall be well-graded and shall conform to the gradation requirements from EM 1110-2-1601 as shown in the tables below. Gradation testing described

under paragraph 3.4 - TESTS AND INSPECTIONS shall be performed at least once for each 1000 cubic yards to be delivered to the project site.

TYPE I RIPRAP GRADATION REQUIREMENTS (1.5-foot to 3-foot layer thickness)	
PERCENT LIGHTER BY WEIGHT (SSD)	LIMITS OF STONE WEIGHT, LB.
100	292 - 117
50	86 - 58
15	43 - 18

TYPE II RIPRAP GRADATION REQUIREMENTS (3-foot layer thickness)	
PERCENT LIGHTER BY WEIGHT (SSD)	LIMITS OF STONE WEIGHT, LB.
100	2331 - 933
50	691 - 467
15	346 - 146

TYPE III RIPRAP GRADATION REQUIREMENTS (4.5-foot layer thickness)	
PERCENT LIGHTER BY WEIGHT (SSD)	LIMITS OF STONE WEIGHT, LB.
100	7873 - 3149
50	2335 - 1575
15	1168 - 492

#### 2.3.5 Earthen Fill Mixture

The voids of Type I riprap and exposed Type II and Type III riprap shall be filled with common fill (see Section 02300 EARTHWORK) as shown on the drawings.

#### 2.3.6 Worksite Stockpile

Temporary storage of riprap at the worksite will be allowed, provided the stockpile toe of the riprap be no closer than 100 linear feet from the

closest edge of the excavation top slope or fill limit, and the amount shall not exceed 200 tons, unless otherwise approved.

#### 2.4 FILTER MATERIALS

All stone used as Type A, Type B, and Type C filter material that is delivered to the jobsite and incorporated into the project shall meet the quality and testing requirements as described under paragraphs 2.1 - Evaluation Testing of Stone, and 2.2 - Stone Quality (including all subparagraphs). The tests shall be conducted by the Contractor in accordance with applicable ASTM and Corps of Engineers methods of tests given in the Handbook for Concrete and Cement, and shall be performed at Waterways Experiment Station or a laboratory validated by the Corps of Engineers. Filter materials shall be well-graded between the limits shown. Gradation testing described under paragraph 3.4 - TESTS AND INSPECTIONS shall be performed at least once for each type of material. All points on individual grading curves obtained from representative samples of filter material shall lie between the boundary limits as defined by smooth curves drawn through the tabulated gradation limits plotted on ENG FORM 2087 or similar form. The individual gradation curves within these limits shall not exhibit abrupt changes in slope denoting either gap grading or scalping of certain sizes or other irregularities which would be detrimental to the proper functioning of the filter.

##### 2.4.1 Type A Filter Stone

Filter gravel designated as Type "A" shall be used to construct subsurface drains at the confluences of unnamed tributary #1 as shown on the drawings. The Type A gradation is given below.

Type "A" Filter Gravel	
U.S. STANDARD SIEVE	PERMISSIBLE LIMITS PERCENT BY WEIGHT, PASSING
9 in.	100
7 in.	65 - 90
6 in.	50 - 75
4 in.	5 - 25
3 in.	0

##### 2.4.2 Type B Filter Stone

Filter gravel designated as Type "B" shall be used to construct subsurface drains at the confluences of unnamed tributary #2 as shown on the drawings. The Type B gradation is given below.

Type "B" Filter Gravel	
U.S. STANDARD SIEVE	PERMISSIBLE LIMITS PERCENT BY WEIGHT, PASSING
6 in.	100
4 in.	60 - 95
3 in.	10 - 35
2 in.	0

#### 2.4.3 Type C Filter Gravel

Filter gravel designated as Type "C" shall be placed behind Type I Riprap as shown on the drawings. The Type C Gradation is given below.

Type "C" Filter Gravel	
U.S. STANDARD SIEVE	PERMISSIBLE LIMITS PERCENT BY WEIGHT, PASSING
2 in.	100
1-1/2 in.	60 - 95
1 in.	10 - 30
½ in.	0

#### 2.4.4 Filter Fabric

Filter fabric material to underlay the filter materials and riprap is described in 02378 FILTER FABRIC.

#### 2.5 QUARRY RUN MATERIALS

Quarry run stone supplied directly from the approved stone source may be used for "Type IV Subsurface Scour Protection". The quarry run stone have shall median weight (SSD) of between 58 lbs to 86 lbs. No more than 10% by weight of the quarry run material shall pass a #200 sieve.

### PART 3 EXECUTION

#### 3.1 DEMONSTRATION SECTION

Prior to placement of riprap, the Contractor shall construct a section of riprap to demonstrate his proposed operations for production placement. The section shall demonstrate procedures and capability of grading and placing riprap within the tolerances specified. The locations of the demonstration

sections shall be approved by the Contracting Officer. The installation shall conform to all applicable specifications. For TYPE I riprap used in bank protection, the demonstration section shall be 100 feet in length and shall also include installation of the fabric wrapped soil lifts SECTION 02960 FABRIC WRAPPED SOIL LIFTS. For TYPE II and Type III riprap used in bank protection, the demonstration section shall be 100 feet in length and shall also include the subsurface toe. For TYPE IV subsurface scour protection, the demonstration section shall be the entire length of approximately 35 feet long, between two weirs within a weir group.

#### 3.1.1 Methods and Equipment

Methods and equipment employed for placement shall demonstrate the adequacy for use in placement of riprap shall conform with the requirements specified. The quantities of all materials placed within the section shall be accurately tabulated and provided immediately to the Contracting Officer for comparison with computed quantities.

#### 3.1.2 Demonstration Section Evaluation

The Contractor shall not proceed with placing riprap protection prior to the approval of the demonstration section. Within a period of 1 day after completion of the section, the Contracting Officer shall determine the adequacy of the section to function as part of the permanent construction. The Contractor shall be notified as to the acceptability of the section and may be directed to modify methods of construction, and remove the section if necessary.

#### 3.1.3 Removal of Demonstration Section

If removal of the demonstration section is required, it shall be conducted in such a manner as to maintain the integrity of the underlying subgrade. The Contractor shall make his own arrangements for disposal in areas not located on the site.

### 3.2 BASE PREPARATION

Areas on which geotextile and riprap are to be placed shall be graded and/or dressed to conform to cross sections shown on the contract drawings within an allowable tolerance of plus or minus 3 inches from the theoretical lines and grades. The prepared base shall be approved by the Contracting Officer. Where such areas are below the allowable minus tolerance limit they shall be brought to grade by fill with earth similar to the adjacent material and then compacted to a density equal to the adjacent in place material.

### 3.3 PLACEMENT OF RIPRAP

#### 3.3.1 General

- a. Riprap shall be placed in such manner as to produce a well graded mass of stone with the minimum practicable percentage of voids, and shall be constructed to the lines and grades shown on the drawings. A tolerance of plus or minus 3 inches from the slope lines and grades shown on the drawings will be allowed in the finished surface of the riprap paving, except that the extreme of this tolerance shall not be continuous over an area greater than 1000 square feet.

- b. The desired distribution of the various sizes of stones throughout the mass shall be obtained by selective loading of the material at the quarry or other source, or by other methods of placement which will produce the specified results. The larger stones shall be well distributed and the entire mass of stones in their final position shall be roughly graded to conform to the gradation specified in paragraph RIPRAP, subparagraph "Riprap Gradation". After placement, rearranging of individual stones will be required to the extent necessary to obtain a well-graded distribution of stone sizes as specified above. Spaces between the larger stones shall be filled with spalls and smaller stones of the largest feasible size to form a compact mass. Spalls and small stones shall not be placed in nests in lieu of larger size stone.
- c. Placing riprap by dumping it at the top of the slope and pushing it down the slope will not be permitted. Placing riprap in layers will not be permitted. Placing riprap by dumping into chutes or by similar methods likely to cause segregation of the various sizes will not be permitted.
- d. Riprap shall be placed on the filter material within the limits shown on the drawings. The drop height for stones less than 250 pounds shall be less than 1 foot and stones greater than 250 pounds shall be placed with no free fall. If stones greater than 250 pounds must be dropped, or if a height of drop greater than 1 foot is required, then field trials shall be performed to determine the maximum height of safe drop without damaging the filter or filter fabric.
- e. At no time shall equipment operate on the unprotected filter or filter fabric. With the exception of compacting miscellaneous fill placed over riprap, no equipment shall be operated directly on the completed stone protection system.
- f. The Contractor shall maintain the stone protection until the entire completed project is accepted by the Contracting Officer. Any material displaced by any cause shall be replaced at his expense to the lines and grades shown on the drawings.

### 3.3.2 Type I, Type II, and Type III Riprap Placed as Bank Protection

The subsurface toedown for Type II and Type III riprap shall be placed by clamshell, hydraulic excavator bucket, or other approved method directly in the trench excavated at the toe of the graded revetment slope.

Type I, Type II, and Type III riprap bank protection on the upper bank shall be placed by clamshell, hydraulic excavator bucket, or other approved method; and may be spread by bulldozing except that pushing stone down the slope will not be permitted. The stone shall be placed in such a manner to achieve a minimum of segregation of sizes, with uniform gradation from the bottom of the slope to the top elevation of the stone as indicated on the drawings. Prior to placing the stone, the graded slopes shall be brought to final grade and dressed to conform to the limits specified in Section 02300 EARTHWORK. The stone shall be placed in a manner that does not damage the filter fabric as called out in Section 02378 FILTER FABRIC.



## 3.3.3 Type IV Subsurface Scour Protection

Type IV quarry run stone placed in the channel bed as scour protection may be back-dumped from the dump trucks.

## 3.3.4 Type II Riprap Placed at Simpson Railroad Trestle

- a. Type II riprap shall be placed by clamshell, hydraulic excavator bucket, or other approved method in the channel at the Simpson Timber Company Railroad trestle as shown on the drawings. Stones having a minimum diameter of 12 inches shall be placed between individual piles with a group. Drop height shall be limited and stones shall be placed in manner that causes no damage to the wooden pilings.
- b. The combined Type I/Type II riprap sections from upstream of the trestle shall be carried through to the downstream side, with the exception that under the trestle, additional Type I riprap shall be placed in lieu of the fabric wrapped reinforced soil lifts.
- c. If any damage to the trestle structure occurs, the contractor shall cease work immediately and shall notify the Contracting Officer and Simpson Timber Company.

## 3.3.5 Placement of Miscellaneous Fill in Connection with Fabric Wrapped Reinforced Soil Lifts

Special treatment is required for the Type I and Type II riprap placed in connection with the fabric wrapped reinforced soil lifts.

## 3.3.5.1 Type I Riprap

The voids of the Type I riprap shall be filled with miscellaneous fill (see Section 02300 EARTHWORK) prior to placing fabric wrapped reinforced soil lifts (Section 02960 FABRIC WRAPPED SOIL LIFTS). Riprap shall be initially placed and then fill shall be then spread over the surface of the riprap to a minimum depth of 1 foot. The fill shall be worked into the upper surface of the riprap using excavator teeth. Upon completion, riprap shall be tamped back into place to provide a uniform surface on which the fabric wrapped reinforced soil lifts can be placed.

## 3.3.5.2 Type II Riprap

The voids of the Type II riprap shall be filled with miscellaneous fill as shown on the drawings prior to placing fabric wrapped reinforced soil lifts (Section 02960 FABRIC WRAPPED SOIL LIFTS). The suggested steps are listed below.

- a. Type II riprap is placed in the toe section as shown on the drawings.
- b. The filter fabric is folded over the top of the riprap toe as shown on the drawings.
- c. The gravel filter is placed on the finish graded slope.

- d. Additional Type II riprap is placed up to the level of the first soil lift.
- e. Fill is then spread over the surface of the riprap to a minimum depth of 1.5 feet. The fill shall be worked into the upper surface of the riprap using excavator teeth. Upon completion, riprap shall be lightly tamped back into place to provide a finished surface that will allow for placement of unrooted cuttings (Section 02920 Type I Vegetation).
- f. Excess fill that cannot be worked into the voids is removed.

### 3.3.6 Placement of Miscellaneous Fill over Type II Riprap

At weirs numbered "4.2", "4.3", "4.4", "4.5", and at "weir groups 5, 6, and 7" miscellaneous fill (see Section 02300 EARTHWORK) shall be placed over the Type II riprap. After riprap is initially placed, miscellaneous fill shall be spread over the surface of the riprap to a minimum depth of 1 foot and shall be worked into the upper surface of the riprap using excavator teeth. Once completed, an additional 1 foot of fill shall be placed and compacted (see Section 02300 upon the surface). Any remaining topsoil not designated for use by others shall be placed in the upper 6 inches of this fill

### 3.3.7 Placement of Miscellaneous Fill over Type III Riprap

Miscellaneous fill (see Section 02300 EARTHWORK) shall be placed over the Type III riprap as shown on the drawings. After riprap is initially placed, miscellaneous fill shall be spread over the surface of the riprap to a minimum depth of 1 foot and shall be worked into the upper surface of the riprap using excavator teeth. Once completed, an additional 1 foot of fill shall be placed and compacted (see Section 02300 upon the surface) Any remaining topsoil not designated for use by others shall be placed in the upper 6 inches of this fill.

## 3.4 TESTS AND INSPECTIONS

### 3.4.1 Gradation Tests

The Contracting Officer may direct this testing under the Contract Clause INSPECTION OF CONSTRUCTION. The Contractor shall provide all necessary screens, scales and other equipment, and operating personnel, and shall grade the sample. Certification and test results shall represent riprap, filter material, and quarry run stone shipped from the quarry. Certification and tests results must be received by the Contracting Officer at the jobsite before the riprap, filter material, or quarry run stone is used in the work.

#### 3.4.1.1 Testing at Quarry or Stockpile

The Contractor shall perform a gradation test or tests on the riprap and filter material at the quarry or stockpile in accordance with paragraph STANDARD TEST METHOD FOR GRADATION OF RIPRAP AND FILTER MATERIAL. The samples shall be taken by the Contractor in the presence of the Contracting Officer. The Contractor shall notify the Contracting Officer not less than 3 days in advance of each test. At least one gradation test shall be performed for each type (A, B, and C) of the filter materials. For Type I, Type II, and Type III riprap, at least one stockpile or quarry gradation test shall be performed per 1000 cubic yards of each size of riprap. The gradation tests

shall be reported using the GRADATION TEST DATA SHEET attached at end of this section. The sample shall consist of not less than 15 tons riprap, or 1 ton of filter material and shall be collected in a random manner which will provide a sample which accurately reflects the actual gradation arriving at the jobsite. Failure of the test on the initial sample and on an additional sample will be considered cause for rejection of the quarry and/or quarry process, and all riprap or filter material represented by the failed tests shall be set aside and not incorporated into the work. Any additional tests required because of the failure of an initial test sample will not be considered as one of the other required tests. If collected by the truckload, each truckload shall be representative of the gradation requirements.

#### 3.4.1.2 In-Place Testing

One in-place gradation test shall be performed on each 1,000 cubic yards or portion thereof placed. In-place test areas shall be not less than 12 feet by 12 feet and shall include the full thickness of the placed riprap or filter material without disturbing or including the underlying material and shall meet the minimum sample size specified above. Each pit excavated for an in-place test sample shall be refilled and reworked to provide a surface void of signs of disturbance. If the gradation test fails, additional gradation tests will be required at the Contractor's expense to delineate the limits of unacceptable stone. The additional gradation tests shall not count as part of the minimum number of gradation tests required. The unacceptable stone shall either be reworked to bring the stone within the specified gradation or the stone shall be removed from the project site as determined by the Contracting Officer.

#### 3.4.2 Standard Test Method for Gradation of Riprap and Filter Material

- a. Select a representative sample (Note No. 1), weigh and dump on hard stand.
- b. Select specific sizes (see example) on which to run "individual weight larger than" test. (See Note No. 2). Procedure is similar to the standard aggregate gradation test for "individual weight retained".
- c. Determine the largest size stone in the sample. (100 percent size).
- d. Separate by "size larger than" the selected weights, starting with the larger sizes. Use reference stones, with identified weights, for visual comparison in separating the obviously "larger than" stones. Stones that appear close to the specific weight must be individually weighed to determine size grouping. Weigh each size group, either individually or cumulatively.
- e. Paragraph d above will result in "individual weight retained" figures. Calculate individual percent retained (heavier than), cumulative percent retained, and cumulative percent passing (lighter than). Plot percent passing, along with the specification curve on ENG Form 4794-R provided at the end of this section.

NOTE NO. 1: Sample Selection: The most important part of the test and the least precise is the selection of a representative sample. No "standard" can be devised; larger quarry run stone is best sampled at the shot or stockpile by given direction to the loader; small graded stone is best

sampled by random selection from the transporting vehicles. If possible, all parties should take part in the sample selection and agree before the sample is run that the sample is representative.

NOTE NO. 2: Selection of Size for Separation: It is quite possible and accurate to run a gradation using any convenient sizes for the separation, without reference to the specifications. After the test is plotted on a curve, then the gradation limits may be plotted. Overlapping gradations with this method are no problem. However, it is usually more convenient to select points from the gradation limits, such as the minimum 50 percent size, the minimum 15 percent size, and one or two others, as separation points. For these types of stone gradations the separation points need to be selected as the smallest size stone at each break in the gradation specified.

-- End of Text --

01009

## Goldsborough Creek Section 206 Restoration

## G R A D A T I O N      T E S T      D A T A      S H E E T

Quarry \_\_\_\_\_ Type of  
Stone Tested \_\_\_\_\_

Date of Test \_\_\_\_\_ Testing Rate \_\_\_\_\_

## T E S T      R E P R E S E N T S

Contract No.

District

Tons

TOTAL		

## G R A D A T I O N

Stone Size (lbs)	Weight Retained	Individual % Retained	Cumulative %Retained	%Pass	Specification % Finer by wt.
Total Weight					
Max Stone Size =					

Remarks:

\_\_\_\_\_  
I certify that the above stone sample is representative of the total tonnage covered by this test report

Contractor Representative \_\_\_\_\_

Government Representative \_\_\_\_\_

01009

Goldsborough Creek Section 206 Restoration

-- End of Section --

SECTION 02463  
STEEL H-PILES FOR CIVIL WORKS

PART 1 GENERAL

1.1 DESCRIPTION

This work consists of furnishing and driving steel h-piles through a variety of materials to provide foundation for grade control structures within the modified stream channel. The H-piles will support precast concrete panels or a Government approved alternative lagging system as described in SECTION 03413 - PRECAST CONCRETE.

1.2 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM A 27/A 27M	(1993) Steel Castings, Carbon, for General Application
ASTM A 36/A 36M	(1994) Carbon Structural Steel
ASTM A 148/A 148M	(1998) High Strength Steel Castings
ASTM A 572	(1999) Standard Specification for High-Strength Low-Alloy Columbium-Vanadium Structural Steel

1.3 SUBMITTALS

Government approval is required for all submittals with a "GA" designation; submittals having an "FIO" designation are for information only. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-01 Data

Pile Driving Equipment; GA.

Submit descriptions of pile driving equipment.

Pile Driving Records; GA.

Submit the proposed form for compiling pile driving records.

Delivery, Storage, and Handling; GA.

Submit delivery, storage, and handling plans for piles at least 30 days prior to delivery of piles to the job site.

SD-04 Drawings

Pile Placement; GA.

Submit pile placement plan at least 30 days prior to delivery of piles to the job site.

SD-18 Records

Pile Driving Records; FIO.

Submit daily pile driving and shaft drilling records.

1.4 DELIVERY, STORAGE, AND HANDLING

Delivery, storage, and handling of materials shall conform to the requirements specified herein and the drawings. Plans for the delivery, storage, and handling of piles shall be developed and submitted in accordance with paragraph SUBMITTALS.

1.4.1 Delivery and Storage

Piles shall be stacked during delivery and storage so that each pile is maintained in a straight position and is supported every 10 feet or less along its length (ends inclusive) to prevent exceeding the maximum camber or sweep. Piles shall not be stacked more than 5 feet high.

1.4.2 Handling

The Contractor shall inspect piles for excessive camber and sweep and for damages before transporting them from the storage area to the driving area and immediately prior to placement in the driving leads. Camber, curvature in the pile in the direction normal to the pile flanges, shall be measured with the pile flange base laying on a flat surface and shall be the distance between the flange base at the mid-length of the pile and the flat surface. Sweep, curvature in the pile in the direction parallel to the pile flanges, shall be measured with the pile flange tips laying on a flat surface and shall be the distance between the flange tips at the mid-length of the pile and the flat surface. The maximum permissible camber and sweep shall be 2 inches over the length of the pile. Piles having excessive camber or sweep will be rejected.

PART 2 PRODUCTS

2.1 MATERIALS

2.1.1 Steel

Steel for H-piles shall conform to ASTM A 572, grade 50,  $F_y=50$  ksi. All miscellaneous shapes and plates shall conform to ASTM A36,  $F_y - 36$  ksi. and splice plates shall conform to ASTM A 36/A 36M. Steel for pile points shall conform to ASTM A 27/A 27M.



#### 2.1.2 H-Piles

H-piles shall be of the shape and sections shown and shall have standard square ends unless otherwise directed. Lengths of piles shall be determined as specified in paragraph INSTALLATION, subparagraph LENGTHS OF PERMANENT PILES

#### 2.1.3 Pile Points

Pile Points shall consist of manufacturer's standard one-piece driving point, fabricated from steel castings as follows to provide full bearing of web and flange of pile tip. Cast driving point with integral tapered cutting wedges and with top alignment curbs to encase web and flanges of pile. High Strength Steel Castings: ASTM A 148/A 148M. Grade 90-60 (Grade 620-415).

#### 2.2 FABRICATION

Fabrication shall conform to the requirements shown in the drawings and as specified herein.

##### 2.2.1 Pile Points

Pile points shall be attached to piles as shown on the drawings.

#### PART 3 EXECUTION

##### 3.1 GENERAL

###### 3.1.1 Support

The Contractor shall provide all temporary bracing, shoring, guying, or other means to avoid excessive stresses and to hold structural elements in place during erection.

###### 3.1.2 Seal

Any engineering design provided by others and submitted for approval shall bear the seal of a registered structural engineer licensed to practice in the State of Washington.

###### 3.1.3 Additions

For any condition not specifically detailed, the Contractor shall refer to similar conditions, which are covered in detail and accordingly provide the same treatment. However, where extensions of design are required, it shall be the responsibility of the Contractor to furnish a design proposal for approval which is consistent with the intent of the project and is in conformance with applicable governing criteria to be accomplished with no additional cost to the government.

###### 3.1.4 Discrepancies

These specifications shall be used along with the project drawings. Where a difference between structural drawing notes and specifications occur, the Contractor shall request clarification immediately upon discovery and before

proceeding. The Contractor shall be responsible for verification of all dimensions and conditions prior to start of construction. The Contractor shall notify the Contracting Officer of any discrepancies or inconsistencies.

### 3.2 PILE DRIVING EQUIPMENT

Select the proposed pile driving equipment, including hammers and other required items, and submit complete descriptions of the proposed equipment in accordance with paragraph SUBMITTALS. Changes in the selected pile driving equipment will not be allowed after the equipment has been approved except as specified and directed. No additional contract time will be allowed for Contractor proposed changes in the equipment.

#### 3.2.1 Pile Driving Hammers

Pile driving hammers shall be of the impact or vibratory type. The size or capacity of hammers shall be as recommended by the manufacturer for the pile weight and soil formation to be penetrated. Boiler, compressor, or engine capacity shall be sufficient to operate hammers continuously at the full rated speed. Hammers shall have a gage to monitor hammer bounce chamber pressure for diesel hammers or pressure at the hammer for air and steam hammers. This gage shall be operational during the driving of piles and shall be mounted in an accessible location for monitoring by the Contractor and the Contracting Officer. In accordance with paragraph SUBMITTALS, the Contractor shall submit the make, model and capacity for each hammer proposed.

#### 3.2.2 Pile Driving Leads

Hammers shall be supported and guided with suspended leads, fixed extended leads or fixed underhung leads. Vibratory hammers shall be operated free hanging without leads.

#### 3.2.3 Pile Extractors

Pile extractors may be vibratory and or impact pile driving hammers. Impact hammers are required for pulling piles not extractable with vibratory hammers.

#### 3.2.4 Jetting Equipment

Water jetting equipment may be used to assist in pile driving with prior written approval from the Contracting Officer. Jetting equipment shall have not less than two removable or fixed jets of the water or combination air-water type. Water jets shall be designed so that the discharge volume and pressure are sufficient to freely erode the material immediately under and adjacent to piles without resulting in pile drift. Jetting equipment including plant description, volume of water and pressure, and size and length of hoses and pipes shall be submitted in accordance with paragraph SUBMITTALS.

### 3.3 INSTALLATION

#### 3.3.1 Lengths of Permanent Piles

Piles may encounter an overconsolidated cohesive silt formation (known as the "Kitsap Formation"). Soldier piles shall obtain depth of penetration shown on the drawings regardless of subsurface conditions. To obtain these depths, Contractor shall utilize driving tips, predrilling, or other measures, as needed, to install the piles in the locations shown to penetrations shown, undamaged.

#### 3.3.2 Pile Placement

A pile placement plan which shows the installation sequence and the methods proposed for controlling the location and alignment of piles shall be developed and submitted in accordance with paragraph SUBMITTALS. Removal of unsuitable material and densification of foundation fill shall be completed in the area prior to the placement of piles for driving. Piles shall be placed accurately in the correct location and alignments, both laterally and longitudinally, and to the vertical lines indicated. The Contractor shall establish a permanent base line to provide for inspection of pile placement by the Contracting Officer during pile driving operations. The base line shall be established prior to driving permanent piles and shall be maintained during the installation of the permanent piles.

#### 3.3.3 Tolerances

##### 3.3.3.1 Tolerances for Precast Concrete Panels

Piles shall be driven or placed to provide continuous bearing along the entire vertical length of the precast concrete panels as shown on the drawings. For precast concrete panels, the maximum tolerances allowable, while at the same time maintain continuous bearing, are listed below.

- (1) Lateral deviation of individual piles within a weir structure, as shown in Plates S-5 through S-17 on the drawings, shall be less than 2 inches.
- (2) Vertical deviation shall be less than 0.1 feet from the correct cut-off elevations shown on the drawings.
- (3) A final variation in rotation of the pile about the center line of the web of not more than 5 degrees will be permitted.
- (4) Deviation from plumb shall be less than 2 inches at the top of the final cutoff point.

##### 3.3.3.2 Tolerances for Alternative Lagging

Use of a government approved alternative lagging system (See SECTION 3413 - PRECAST CONCRETE) may allow for more variation in the pile locations. However, as in the case of precast panels, piles shall be driven or placed to provide continuous bearing along the entire vertical length of the lagging. For an alternative lagging system, the maximum tolerances allowable, while at the same time maintain continuous bearing, are listed below.

- (1) Lateral deviation of individual piles within a weir structure, as shown in Plates S-5 through S-17 on the drawings, shall be less than 6 inches.
- (2) Vertical deviation shall be less than 0.1 feet from the correct cut-off elevations shown on the drawings.
- (3) A final variation in rotation of the pile about the center line of the web of not more than 5 degrees will be permitted.
- (4) Deviation from plumb shall be less than 6 inches at the top of the final cutoff point.

#### 3.3.3.3 Adjustments

At areas where lateral deviation, variation in rotation, or deviation from plumb are all less than the stated tolerances, but the bearing strip does not bear continuously, the contractor may make the following adjustments with written approval from the contract officer.

- (1) The bearing strip shall be removed and the bearing zone packed with non-shrink grout.
- (2) Shim concrete shown on the drawings may at Contractor's option be placed with placing of cap concrete. Void at end of panel shall be vibrated as required for continuous support.
- (3) Precast concrete panels (or Government Approved alternative lagging system) may be field cut to fit between panels. Exposed reinforcing shall be protected with a minimum of 1.5 inches of cover. Concrete repair shall be according to Section 03413 PRECAST CONCRETE. Adjustments to concrete panels or lagging due to improperly located piles shall be made at no additional cost to the Government.

#### 3.3.3.4 Exceedance of Tolerances

Piles not located or bearing properly, or exceeding the stated tolerances for lateral deviation, vertical deviation, rotation, or plumb shall be pulled and redriven or reinstalled as directed at no additional cost to the Government.

#### 3.3.4 Pile Driving

The Contracting Officer shall be notified 30 days prior to the date pile driving is to begin. Permanent piles shall be driven with hammers of the same model and manufacturer, same energy and efficiency, and using the same driving system. Hammers shall be operated at all times at the speed and under the conditions recommended by the manufacturer. Prior to driving and with the pile head seated in the hammer, each pile shall be checked to ensure that it has been aligned correctly and that the orientation of the web about the centerline is as shown. Once pile driving has begun, conditions such as alignment shall be kept constant. Each pile shall be driven continuously and without interruption until the required depth of

penetration has been attained. Deviation from this procedure will be permitted only when driving is stopped by causes that reasonably could not have been anticipated. A pile that cannot be driven to the required depth because of an obstruction, as indicated by a sudden unexplained change in blow count and drifting, shall be pulled and redriven (with predrilling if necessary) or shall be cut off and abandoned, whichever is directed by the contract officer. After piles are driven, they shall be cutoff square as required at the indicated cutoff elevation. Any voids around piles or abandoned holes for pulled piles shall be backfilled and densified to the same density as the surrounding soil.

#### 3.3.4.1 Jetting

With prior approval by the Contracting Officer, water jetting may be used to assist driving piles through strata that can not be penetrated practicably by use of the hammer alone. After the penetration of the strata requiring jetting has been accomplished, jetting shall be discontinued and the driving shall be resumed with the hammer alone. Jetted piles shall be seated by driving not less than 1 foot after jetting has been stopped. Any voids between the driven pile and the soil that result from jetting shall be backfilled with concrete.

#### 3.3.4.2 Pulled Piles

Piles damaged or impaired for use during driving shall be pulled and replaced with new piles.

#### 3.3.5 Pile Driving Records

Complete and accurate records of the pile driving operations shall be compiled on the approved form and submitted in accordance with paragraph SUBMITTALS. Driving records for each pile shall include date driven, pile identification number, pile dimensions, location, top elevation, tip elevation, batter alignment, description of hammer used, number of blows required for each foot of penetration throughout the entire length of the pile and for each inch of penetration in the last foot of penetration, total driving time in minutes and seconds, and any other pertinent information as required or requested such as unusual driving conditions, interruptions or delays during driving, damage to pile resulting from driving, heave in adjacent piles, and depth and description of voids formed adjacent to the pile. Additional data required to be recorded for impact hammers include the rate of hammer operation and the length of the bounce hose. Additional data required to be recorded for vibratory hammers include hammer power pack description, horsepower applied to pile, and hammer operating frequency.

#### 3.3.6 PREDRILLED SHAFTS

Where necessary, shafts shall be excavated into the "Kitsap Formation" or other hard driving materials to place piles at the depths and dimensions shown on the drawings.

##### 3.3.6.1 Drilling

Shafts shall be drilled vertical and plumb such that the finished piles can meet the tolerances called out in Paragraph 3.3.3 - Tolerances. Excavated material shall be disposed of in accordance with Section 02300 EARTHWORK.

## 3.3.6.2 Backfill

Concrete as specified in SECTION 03302 CONCRETE shall be used to backfill the voids in the shafts after the H-pile has been placed. Concrete shall be placed to the level of the top of the drilled shaft but shall not interfere with installation of the precast panels. Water that flows into the drilled shaft shall be continuously removed and all water shall be removed from the bottom, to the extent possible, prior to concrete placement. The maximum permissible depth of water will be 2 inches. In the event of a severe water condition that makes it impossible or impractical to dewater the excavation, concrete shall be placed using underwater tremie after water movement has stabilized. The concrete shall be continuously placed by methods that ensure against segregation and dislodging of shaft sidewalls. Concrete shall be placed by pumping or drop chutes in dry holes and by tremie or pumping in wet holes. The discharge shall be kept a minimum of 3 feet below the fresh concrete surface during placement. Should it become necessary to interrupt placing concrete in any pre-drilled hole, surfaces shall be cleaned of laitance and slush with one-to-one portland cement grout prior to placement of additional concrete. The grout shall have a water-cement ratio not exceeding that of the concrete.

-- End of Section --

SECTION 02722  
AGGREGATE SURFACE COURSE FOR ROADS AND TRAILS

PART 1 GENERAL

1.1 DESCRIPTION

This specification covers aggregate surfacing requirements for construction/permanent maintenance access roads, temporary construction roads, upgrades to the trail on the south side of Goldsborough Creek for temporary access during construction, and trail relocations as shown on the drawings.

1.2 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM C 136	(1996a) Sieve Analysis of Fine and Coarse Aggregates
ASTM D 75	(1987; R 1992) Sampling Aggregates
ASTM D 1556	(1990; R 1996) Density and Unit Weight of Soil in Place by the Sand-Cone Method
ASTM D 4318	(1998) Liquid Limit, Plastic Limit, and Plasticity Index of Soils
ASTM E 11	(1995) Wire-Cloth Sieves for Testing Purposes

1.3 DEGREE OF COMPACTION

Degree of compaction is a percentage of the maximum density obtained by the test procedure presented in ASTM D 1556.

1.4 SUBMITTALS

Government approval is required for submittals with a "GA" designation; submittals having an "FIO" designation are for information only. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-09 Reports

Field Density Testing; GA.

Calibration curves and related test results prior to using the device or equipment being calibrated.

#### 1.5 EQUIPMENT

All plant, equipment, and tools used in the performance of the work covered by this section shall be maintained in satisfactory working condition at all times. The equipment shall be adequate and shall have the capability of producing the required compaction, and meeting the grade and thickness controls set forth herein.

#### 1.6 SAMPLING AND TESTING

Sampling and testing shall be the responsibility of the Contractor and shall be performed by a testing laboratory approved in accordance with Section 01451 CONTRACTOR QUALITY CONTROL. The materials shall be tested to establish compliance with the specified requirements; testing shall be performed at the specified frequency. The Contracting Officer may specify the time and location of the tests. Copies of test results shall be furnished to the Contracting Officer within 24 hours of completion of the tests.

##### 1.6.1 Sampling

Sampling for material gradation, liquid limit, and plastic limit tests shall be taken in conformance with ASTM D 75. When deemed necessary, the sampling will be observed by the Contracting Officer.

##### 1.6.2 Testing

Aggregate gradation shall be made in conformance with ASTM C 136. Sieves shall conform to ASTM E 11.

Liquid limit and plasticity index shall be determined in accordance with ASTM D 4318.

Field density testing shall be field measured in accordance with ASTM D 1556. One test is required each 10,000 square feet of surface on the construction/permanent maintenance access roads and for the temporary access roads.

### PART 2 PRODUCTS

#### 2.1 AGGREGATES

Aggregates shall consist of clean, sound, durable particles of natural gravel, crushed gravel, crushed stone, crushed recycled concrete, sand, or other approved materials processed and blended or naturally combined. Aggregates shall be free from lumps and balls of clay, organic matter, objectionable coatings, and other foreign materials. The Contractor shall be responsible for obtaining materials that meet the specification and can be used to meet the grade and smoothness requirements specified herein after all compaction operations have been completed.



#### 2.1.1 Coarse Aggregates

The material retained on the No. 4 sieve shall be known as coarse aggregate. Coarse aggregates shall be reasonably uniform in density and quality. The amount of flat and/or elongated particles shall not exceed 20 percent. A flat particle is one having a ratio of width to thickness greater than three; an elongated particle is one having a ratio of length to width greater than three. When the coarse aggregate is supplied from more than one source, aggregate from each source shall meet the requirements set forth herein.

#### 2.1.2 Fine Aggregates

The material passing the No. 4 sieve shall be known as fine aggregate. Fine aggregate shall consist of screenings, sand, soil, or other finely divided mineral matter that is processed or naturally combined with the coarse aggregate.

#### 2.1.3 Gradation Requirements

Gradation requirements specified in TABLE I shall apply to the completed aggregate surface. It shall be the responsibility of the Contractor to obtain materials that will meet the gradation requirements after mixing, placing, compacting, and other operations. TABLE I shows permissible gradings for granular material used in aggregate surface roads and airfields. Sieves shall conform to ASTM E 11.

TABLE I. GRADATION FOR AGGREGATE SURFACE COURSES

<u>Sieve Designation</u>	<u>Percent Passing</u>
1 in.	100
3/8 in.	50-85
No. 4	35-65
No. 10	25-50
No. 40	15-30
No. 200	8-15

#### 2.2 LIQUID LIMIT AND PLASTICITY INDEX REQUIREMENTS

The portion of the completed aggregate surface course passing the No. 40 sieve shall have a maximum liquid limit of 35 and a plasticity index of 4 to 9.

### PART 3 EXECUTION

#### 3.1 LOCATION

The approximate locations of the construction/permanent maintenance access roads are shown on the drawings. The final alignment shall follow existing roads and grades to the extent practical and shall be approved by the Contracting Officer.

The temporary access road on the south side shall be field located with approval from the Contracting Officer.

The relocations to the existing trail shown on the drawings are approximate. Final locations shall be determined in the field with approval from the Contracting Officer.

### 3.2 PREPARATION OF UNDERLYING SUBGRADE

When widening existing roads and establishing new ones, the contractor shall establish a smooth grade within the confines of the existing topography. Localized cut/fill may be necessary and drainage must be provided. The subgrade, including shoulders, shall be cleaned of all foreign substances. At the time of surface course construction, the subgrade shall contain no frozen material. Ruts or soft yielding spots in the subgrade areas having inadequate compaction and deviations of the surface from the requirements set forth herein shall be corrected by loosening and removing soft or unsatisfactory material and by adding approved material, reshaping to line and grade and recompacting. The completed subgrade shall not be disturbed by traffic or other operations and shall be maintained by the Contractor in a satisfactory condition until the surface course is placed.

### 3.3 GRADE CONTROL

During construction, the lines and grades including crown and cross slope indicated for the aggregate surface course shall be maintained by means of line and grade stakes placed by the Contractor in accordance with the SPECIAL CONTRACT REQUIREMENTS.

### 3.4 MIXING AND PLACING MATERIALS

The materials shall be mixed and placed to obtain uniformity of the material and a uniform optimum water content for compaction. The Contractor shall make adjustments in mixing, placing procedures, or in equipment to obtain the true grades, to minimize segregation and degradation, to obtain the desired water content, and to ensure a satisfactory surface course.

### 3.5 LAYER THICKNESS

The aggregate material shall be placed in a single layer of uniform thickness.

### 3.6 COMPACTION

Each layer of the aggregate surface course shall be compacted with approval compaction equipment. The water content during the compaction procedure shall be maintained at optimum. In locations not accessible to the rollers, the mixture shall be compacted with mechanical tampers. Compaction shall continue until each layer through the full depth is compacted to at least 95 percent of laboratory maximum density. Any materials that are found to be unsatisfactory shall be removed and replaced with satisfactory material or reworked to produce a satisfactory material.

### 3.7 THICKNESS CONTROL

The completed thickness of the aggregate surface course shall be within 1 inch, plus or minus, of the thickness indicated on plans. The thickness of the aggregate surface course shall be measured at intervals in such manner that there will be a thickness measurement for at least each 5000 square feet of the aggregate surface course. The thickness measurement shall be made by test holes at least 3 inches in diameter through the aggregate surface course. When the thickness fails to meet the criterion, the Contractor shall, at no additional expense to the Government, make corrections by scarifying, adding mixture of proper gradation, and reblading and recompact, as directed.

### 3.8 FIELD DENSITY TESTING

Density shall be measured in the field in accordance with ASTM D 1556. For the method presented in ASTM D 1556 the base plate as shown in the drawing shall be used.

### 3.9 MAINTENANCE

The aggregate surface course shall be maintained in a condition that will meet all specification requirements until accepted.

### 3.10 DISPOSAL OF UNSATISFACTORY MATERIAL

Any unsuitable materials that must be removed shall be disposed of as directed. No additional payments will be made for materials that must be replaced.

-- End of Section --

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SECTION 02920  
TYPE I VEGETATION

PART 1 GENERAL

1.1 DESCRIPTION

This work consists of supplying and installing un-rooted cuttings at locations as shown in the drawings or as directed by the Contracting Officer. Work shall include purchase, storage, installation and post-installation care through the completion of construction

1.2 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

AMERICAN NURSERY AND LANDSCAPE ASSOCIATION (ANLA)

ANLA ANSI/ANLA Z60.1 (1996) Nursery Stock

AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)

1.3 SUBMITTALS

Government approval is required for submittals with a "GA" designation; submittals having an "FIO" designation are for information only. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-07 Schedules

Equipment; GA.

A listing of equipment to be used for the planting operation.

SD-13 Certificates

Plant Material; GA.

Prior to delivery of materials, certificates of compliance attesting that the unrooted cuttings meet the specified requirements. Copies of the material certificates shall include botanical name, common name, diameter, length, quantity by species, and location where harvested or grown.

SD-18 Records

Plant Establishment Period; FIO.

Calendar time period for the plant establishment period.

SD-19 Operation and Maintenance Manuals

Maintenance Instructions; FIO.

Instruction for year-round care of installed plant material.

SD-01 List

List of suppliers; FIO.

List of plant material suppliers and their locations.

PART 2 PRODUCTS

2.1 GENERAL

2.1.1 Duration

The Contractor shall provide all equipment, labor, materials, and technical expertise to install and maintain the woody plants through the completion of the project and demobilization. This shall include, but not be limited to providing adequate irrigation, shading, storage, and maintenance of the plant materials until demobilization is complete.

2.1.2 Plant Material Health

It is the Contractor's responsibility to insure that all delivered woody plants be free of disease, insect pests, and other infestations (ANLA ANSI/ANLA Z60.1). Unhealthy plant material shall be legally disposed of off site and replaced at Contractor's expense.

2.1.3 Delivery

Delivery Date. The Contractor shall be responsible for coordination of delivery of plant materials so that a continuous supply of the appropriate type will be available as needed during streambank construction. The material will be used during construction with work in 02960 EROSION CONTROL FABRIC.

2.2 UNROOTED CUTTINGS

Woody plant materials consist of unrooted cuttings.

2.2.1 Condition

Unrooted cuttings consist of dormant, live, poles collected and supplied in an unrooted condition.

Type IA cuttings intended for planting within fabric wrapped soil lifts riprap shall be 5 feet to 6 feet long, and have a diameter of 1/2 inch to 1 inch at the smallest end of the cutting.

Type IB cuttings intended for planting directly into soil shall be a minimum of 3 feet long, and have a diameter of 1/2 inch to 1-1/2 inch at the smallest end.

Type IB cuttings intended for planting riprap shall be 6 feet long, and have a diameter of 1/2 inch to 1 inch at the smallest end of the cutting. Labels shall identify the species and quantity.

#### 2.2.2 Origin

Unrooted cutting plant material shall be obtained from a source in accordance with the applicable permit requirements and approved by the Contracting Officer to insure a genetic composition compatible with the vegetation found at the site. All cuttings shall be taken from dormant, live stems.

#### 2.2.3 Orientation

The basal end (bottom) of cuttings shall be indicated by a clean, slanted cut. All lateral stems shall be removed at the juncture with the main stem. Tops of cuttings (distal ends) shall be indicated by a cut perpendicular to the stem.

#### 2.2.4 Storage

Once harvested, cuttings shall be divided into bundles of 100 stems of the same species and oriented with the basal ends all at the same end of the bundle. Bundles of cuttings shall be tied with polypropylene or equivalent, non-degradable string in such a manner as to prevent damage to the stems, bark, or other plant parts. Bundles of cuttings shall be wrapped in wet burlap and stored at a temperature between 34°F and 50°F for up to 7 days after collection. If stored more than 7 days, cuttings should be placed in cold storage. Cuttings (including burlap wrappings and binder string) stored for more than 7 days shall be treated with Captan® solution to prevent fungal growth. Wrapped and moistened bundles shall be placed in a refrigeration unit and maintained at 34 to 40 degrees F, without light. Cuttings shall be kept in a moist and cool (35 to 50 degrees F) location until within 48 hours of installation. Within 48 hours of installation, cuttings shall be kept moist and stored in a shaded location.

### 2.3 TYPE I PLANTING PLAN

Type I plant materials consist of unrooted cuttings to be used with bank treatment areas. Type IA refers to cuttings placed in conjunction with fabric wrapped soil lifts. Type IB refers to cutting placed on streambanks and in riprap. The species and proportions for both Type IA and Type IB are identified below.

BOTANICAL NAME	COMMON NAME	SIZE/TYPE	% USED
SALIX LASIANDRA	PACIFIC WILLOW	UNROOTED CUTTING	30%
SALIX SCOULERIANA	SCOULERS WILLOW	UNROOTED CUTTING	20%
POPULUS TRICHOCARPA	BLACK COTTONWOOD	UNROOTED CUTTING	20%
CORNUS STOLONIFERA	RED OSIER DOGWOOD	UNROOTED CUTTING	30%

## PART 3 EXECUTION

### 3.1 INSTALLATION

#### 3.1.1 Installation of Type IA Vegetation in Fabric Wrapped Soil Lifts

Type IA unrooted cuttings shall be placed during installation of the fabric wrapped soil lifts. Cuttings shall be installed horizontally, at a rate of 5 cuttings per foot, between successive lifts of fabric reinforced soil as indicated on the drawings. Cuttings shall be placed in a random, cross-wise fashion (not parallel with the bank) to maximize the amount of soil the branches come in contact with. Cuttings shall be reviewed by the Contracting Officer prior to placing overlying materials.

#### 3.1.2 Installation of Type IB Vegetation on Streambanks

Once the rootwads, logs, and boulders have been completely installed, unrooted cuttings shall be placed in conjunction with these features in areas designated as Type IB on the drawings. The nominal density shall be 2 feet on center. Final placement may be field adjusted. Installation may be done by use of the "stinger" (see below) or by hammering the cuttings into place with a dead blow hammer. If hammering directly into soil causes excessive damage to the cutting, pilot holes shall be provided.

#### 3.1.3 Installation of Type IB Vegetation in Riprap

After riprap bank protection has been installed, unrooted cuttings shall be placed as shown on the drawings. The basal ends of each unrooted cutting (marked with a slanted cut) shall be inserted into a pilot hole driven through the riprap by machinery. The nominal planting density shall be 4 feet on center. Final placement may be field adjusted.

A pre-approved method for installation of Type IB vegetation is by use of the "Stinger", a custom made planting attachment that is mounted on the bucket of a 130-150 HP, long-reach hydraulic excavator. It places unrooted cuttings into the soil beneath a riprap blanket one cutting at a time. One pre-approved product supplier is:

Dan Culley  
Dayton Tractor  
Dayton, Washington  
509-382-4824

Dayton Tractor may also supply a 135 HP hydraulic excavator specially modified for use with the Stinger. The contractor may submit an equivalent piece of equipment for approval by the Contracting Officer.

### 3.2 FINISHING

Protruding stems of all live stakes shall be the distal end with a length corresponding to that needed for the presence of four to five healthy bud nodes (approximately 3 inches to 5 inches). The exposed portion of the stem shall be greater than 3 inches and no more than 5 inches in length as measured from the finished surface of the fabric, or the final streambank ground surface. Mushroomed tops shall be clipped flush.



### 3.3 RESTORATION AND CLEAN UP

Excess and waste material shall be removed from the installed area and shall be disposed of offsite.

### 3.4 PLANT ESTABLISHMENT PERIOD

#### 3.4.1 Commencement

The plant establishment period for maintaining installed Type I plant material in a healthy growing condition shall commence immediately after planting and shall extend to October 1 of the calendar year following completion of the project. The contractor shall provide all equipment, labor, materials and technical expertise to maintain a minimum of 80% survival of the woody plants at the end of the plant establishment period. Vegetation damaged by flood flows in Goldsborough Creek will not be considered in determining survivability.

#### 3.4.2 Maintenance During Establishment Period

Maintenance shall be performed a minimum of once per week throughout the growing seasons and during the first three months after installation. Otherwise, maintenance shall be performed a minimum of once each month. Maintenance of plant material shall include watering; straightening plant material; pruning dead or broken branch tips; maintaining plant material labels; eradicating blackberries and reed canary grass, insects and disease; post-fertilization; and removing and replacing unhealthy plants.

##### 3.4.2.1 Watering Plant Material

The plant material shall be watered as necessary to prevent desiccation and to maintain an adequate supply of moisture within the root zone. An adequate supply of moisture is estimated to be the equivalent of 1 inch absorbed water per week, delivered in the form of rain or augmented by watering. Run-off, puddling and wilting shall be prevented. Unless otherwise directed, watering trucks shall be limited to designated maintenance access roads. Watering of other adjacent areas or existing plant material shall be prevented.

##### 3.4.3 Replacement Plant Material

Unless otherwise directed, plant material shall be provided for replacement in accordance with paragraph PLANT MATERIAL. Replacement plant material shall be installed in accordance with paragraph INSTALLATION, and recommendations in paragraph PLANT ESTABLISHMENT PERIOD.

##### 3.4.4 Maintenance Instructions

Written instructions shall be furnished containing drawings and other necessary information for year-round care of the installed plant material; including, when and where maintenance should occur, and the procedures for plant material replacement.

-- End of Section --

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SECTION 02922  
TYPE III VEGETATION - SEEDING

PART 1 GENERAL

1.1 DESCRIPTION

This work consists of supplying and planting native seed to provide a living cover of native grass species at the locations shown on Plate C-17, and as called out in notes on Plates P1-P3 in the drawings. Work shall include purchase, storage, installation and post-installation care through the completion of construction.

1.2 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

AGRICULTURAL MARKETING SERVICE (AMS)

AMS-01 (Aug 95) Federal Seed Act Regulations Part 201

1.3 SUBMITTALS

Government approval is required for submittals with a "GA" designation; submittals having an "FIO" designation are for information only. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-01 Data

Literature; FIO.

Manufacturer's literature including physical characteristics, application and installation instructions for equipment, surface erosion control material and chemical treatment material.

SD-09

Reports  
Equipment Calibration; FIO.

Certification of calibration tests conducted on the equipment used in the seeding operation.

SD-13 Certificates

Seed; GA. Mulch; GA.

Prior to the delivery of materials, certificates of compliance attesting that materials meet the specified requirements. Certified copies of the material certificates shall include the following:

- a. Seed. Classification, botanical name, common name, percent pure live seed, minimum percent germination and hard seed, maximum percent weed seed content, and date tested.

SD-18 Records

Maintenance Record; FIO.

Maintenance work performed, area repaired or reinstalled, diagnosis for unsatisfactory stand of grass plants.

1.4 DELIVERY, INSPECTION, STORAGE, AND HANDLING

1.4.1 Inspection

Seed shall be inspected upon arrival at the job site for conformity to species and quality. Seed that is wet, moldy, or bears a test date five months or older, shall be rejected. Other materials shall be inspected for compliance with specified requirements. The following shall be rejected: open soil amendment containers or wet soil amendments; topsoil that contains slag, cinders, stones, lumps of soil, sticks, roots, trash or other material over a minimum 1-1/2 inch diameter; and topsoil that contains viable plants and plant parts. Unacceptable materials shall be removed from the job site.

1.4.2 Storage

Materials shall be stored in designated areas. Seed, lime, and fertilizer shall be stored in cool, dry locations away from contaminants. Chemical treatment material shall be stored according to manufacturer's instructions and not with seeding operation materials. Seed shall be stored in a cool, dry environment (50-70 degrees F with less than 60 percent relative humidity) until application.

1.4.3 Time Limitation

Hydroseeding time limitation for holding seed in the slurry shall be a maximum 24 hours.

PART 2 PRODUCTS

2.1 SEED

2.1.1 General

The Contractor shall provide all equipment, labor and materials necessary to obtain from a nursery the quantities and native species of seed called for in this specification, and to install and maintain the seed through the completion of the project and demobilization. This shall include, but not be limited to, providing adequate storage and irrigation of the seed until demobilization is complete.

### 2.1.2 Seed Classification

State-certified seed of the latest season's crop shall be provided in original sealed packages bearing the producer's guaranteed analysis for percentages of mixture, purity, germination, hard seed, weed seed content, and inert material. Labels shall be in conformance with AMS-01 and applicable state seed laws.

### 2.1.3 Permanent Seed Species and Mixtures

A seed mix comprised of a mixture of native species suited for the range of conditions expected for the project site are shown below. All seed shall comply with requirements of the Washington State Law. The specified seed mixes shall be healthy and vigorous and free of noxious weed seeds. Seeds that have become wet, moldy, or otherwise damaged, or do not meet the Specifications shall be legally disposed of off site and replaced at Contractor's expense. The contents of each bag of seed delivered shall be clearly labeled and a list of the species components of the seed mix, including the following information, shall be supplied upon delivery of seed. This information shall be verified by the Contracting Officer prior to planting.

- a. The common name genus, species and subspecies (when applicable).
- b. The amount of Pure Live Seed (PLS) pounds of each species in each seed mix.
- c. The percent viability of each species in each seed mix.
- d. The total percentage by weight of other seeds.
- e. The total delivered weight, in pounds, of each seed mix.
- f. The state and county of origin of each species of seed used in mixes.
- g. The name and address of the seed supplier.

The species and proportions of seed required are shown in the Table below. The seed quantities are shown on the drawings and assume no wastage. Seed is measured, and shall be provided in pounds of pure live seed (PLS). Any changes on species composition (due to availability) must be approved by the Contracting Officer.

Common Name	Scientific Name	% of Mix
PACIFIC BENTGRASS	AGROSTIS LONGIFOLIA	10
MEADOW FOXTAIL	ALOPECURUS PRATENSUS	20
TAIL FESCUE	FESTUCA ARUNDINACEAE	20
WHITE YARROW	ACHILLEA MILLEFOLIUM	20
BLUE WILDRYE	ELYMUS GLAUCUS	15
PERENIAL RYGRASS	LOLIUM PERENNE	15

### 2.2 MULCH

Mulch shall be free from weeds, mold, and other deleterious materials. Mulch materials shall be native to the region.

2.2.1 Straw

Straw shall be stalks from oats, wheat, rye, barley, or rice, furnished in air-dry condition and with a consistency for placing with commercial mulch-blowing equipment.

2.2.2 Hay

Hay shall be native hay, sudan-grass hay, broomsedge hay, or other herbaceous mowings, furnished in an air-dry condition suitable for placing with commercial mulch-blowing equipment.

2.2.3 Wood Cellulose Fiber

Wood cellulose fiber shall not contain any growth or germination-inhibiting factors and shall be dyed an appropriate color to facilitate placement during application. Composition on air-dry weight basis: 9 to 15 percent moisture, pH range from 4.5 to 6.0.

2.2.4 Paper Fiber

Paper fiber mulch shall be recycled news print that is shredded for the purpose of mulching seed.

2.3 WATER

Water shall be the responsibility of the Contractor, unless otherwise noted. Water shall not contain elements toxic to plant life.

PART 3 EXECUTION

3.1 LOCATION, TIME, AND CONDITIONS

Seed will be used in vegetated bank protection, and to revegetate staging areas, temporary construction roads, and other disturbed areas. Locations are shown on Plate C-17 and are called in "Notes" on Plates P1 to P3. Seed shall be installed from September 1 through December 1 for fall establishment. Seeding operations shall be performed only during periods when beneficial results can be obtained. When drought, excessive moisture, or other unsatisfactory conditions prevail, the work shall be stopped when directed. When special conditions warrant a variance to the seeding operations, proposed alternate times shall be submitted for approval.

3.1.1 Equipment Calibration

Immediately prior to the commencement of seeding operations, calibration tests shall be conducted on the equipment to be used. These tests shall confirm that the equipment is operating within the manufacturer's specifications and will meet the specified criteria. The equipment shall be calibrated a minimum of once every day during the operation. The calibration test results shall be provided within 1 week of testing.

### 3.2 SOIL PREPARATION

#### 3.2.1 Finish Grade and Topsoil

The Contractor shall verify that finished grades are as indicated on drawings, and the placing of topsoil, smooth grading, and compaction requirements have been completed in accordance with Section 02300 EARTHWORK, prior to the commencement of the seeding operation.

#### 3.2.2 Tillage

Areas, including staging areas and temporary construction roads, that are compacted by construction operations shall be completely pulverized by tillage. Soil on slopes up to a maximum 3-horizontal-to-1-vertical shall be tilled to a minimum 4 inch depth. On slopes between 3-horizontal-to-1-vertical and 1-horizontal-to-1 vertical, the soil shall be tilled to a minimum 2 inch depth by scarifying with heavy rakes, or other method. Rototillers shall be used where soil conditions and length of slope permit. Existing drainage patterns shall be maintained.

#### 3.2.3 Prepared Surface

All areas to be seeded shall be smoothed to meet the finish grade, and shall be free of any weed or non-native plant growth except for riparian vegetation that is to remain. Prior to seeding, smoothed surfaces should be lightly raked by hand tools to provide a loose and friable surface 1/4 inch in depth to accept seed. The surface shall be reviewed by the Contracting Officer prior to seeding.

### 3.3 INSTALLATION

#### 3.3.1 Installing Seed

Seeding method shall be broadcast seeding or hydroseeding. Seeding procedure shall ensure even coverage. Gravity feed applicators, which drop seed directly from a hopper onto the prepared soil, shall not be used because of the difficulty in achieving even coverage, unless otherwise approved. Absorbent polymer powder shall be mixed with the dry seed at the rate recommended by the manufacturer.

- a. For use in fabric wrapped reinforced soil lifts (SECTION 2960) the seed shall be uniformly placed at the rate of 15 oz/1000 square feet.
- b. In all staging/stockpiling and temporary construction road areas, seed shall be uniformly broadcast at the rate of 20 pounds per acre.

#### 3.3.2 Broadcast Seeding

Seed shall be uniformly broadcast using broadcast seeders. Half the total rate of seed application shall be broadcast in 1 direction, with the remainder of the seed rate broadcast at 90 degrees from the first direction.

### 3.3.3 Mulching

A layer of mulch shall be applied to seeded areas immediately after installation of seed. The mulch will be applied to transition areas between bank treatment areas and existing, undisturbed areas as well as all disturbed topsoil areas. Selection of mulch type is at Contractor's discretion based on the requirements herein. Mulching will be conducted immediately following seeding operations. The mulch will be spread evenly by hand or mechanical blower. When mulching slopes application will be initiated at the top of the slope, working down slope where possible. Mulch will not be spread when wind velocities would prohibit even material distribution.

#### 3.3.3.1 Hay, Straw, or Wood Chip Mulch

Hay, straw or wood chip mulch shall be spread uniformly at the rate of 2 tons per acre. Mulch shall be spread by hand, blower-type mulch spreader, or other approved method. Mulching shall be started on the windward side of relatively flat areas or on the upper part of steep slopes, and continued uniformly until the area is covered. The mulch shall not be bunched or clumped. Sunlight shall not be completely excluded from penetrating to the ground surface. All areas installed with seed shall be mulched on the same day as the seeding.

#### 3.3.3.2 Wood Cellulose Fiber, Paper Fiber, and Recycled Paper

Wood cellulose fiber, paper fiber, or recycled paper shall be applied as part of the hydroseeding operation. The mulch shall be mixed and applied in accordance with the manufacturer's recommendations.

#### 3.3.4 Hydroseeding

If hydroseeding is used, seed shall be mixed to ensure broadcast at rates stated above. Seed shall be added to water and thoroughly mixed to meet the rates specified. The time period for the seed to be held in the slurry shall be a maximum 24 hours. Wood cellulose fiber mulch and tackifier shall be added at the rates recommended by the manufacturer after the seed, fertilizer, and water have been thoroughly mixed to produce a homogeneous slurry. Slurry shall be uniformly applied under pressure over the entire area. The hydroseeded area shall not be rolled. Additional mulching is not required.

#### 3.3.5 Watering Seed

Water shall be applied to supplement rainfall if necessary to ensure the required survival rate specified herein. Watering shall be started immediately after completing the seeding of an area. Water shall be applied to supplement rainfall at a rate sufficient to ensure moist soil conditions to a minimum 1 inch depth. Run-off and puddling shall be prevented. Watering trucks shall not be driven over turf areas, unless otherwise directed. Watering of other adjacent areas or plant material shall be prevented.



### 3.4 RESTORATION AND CLEAN UP

#### 3.4.1 Restoration

Existing turf areas, pavements, and facilities that have been damaged from the seeding operation shall be restored to original condition at Contractor's expense.

#### 3.4.2 Clean Up

Excess and waste material shall be removed from the seeded areas and shall be disposed offsite.

### 3.5 PROTECTION OF INSTALLED AREAS

All seeded areas shall be protected and maintained throughout the construction of the project. No construction traffic will be allowed over a seeded or planted area once the seed and erosion control measures have been completed. Foot traffic shall be minimized; workers shall travel along completed banks only in designated areas. Any damage to seeded areas caused by construction traffic or construction activities shall be repaired and re-seeded at no cost to the Government. The seed establishment period to obtain a healthy stand of grass plants shall begin on the first day of work under this contract and shall end 3 months after the last day of the seeding operation. Written calendar time period shall be furnished for the seed establishment period. When there is more than 1 seed establishment period, the boundaries of the seeded area covered for each period shall be described. The seed establishment period shall be coordinated with Section 02921 TYPE II VEGETATION. The seed establishment period shall be modified for inclement weather, shut down periods, or for separate completion dates of areas.

### 3.6 SEED ESTABLISHMENT PERIOD

#### 3.6.1 Commencement

The seed establishment period to obtain a healthy stand of grass plants shall begin on the first day of work under this contract and shall end 3 months after the last day of the seeding operation. Written calendar time period shall be furnished for the seed establishment period. When there is more than 1 seed establishment period, the boundaries of the seeded area covered for each period shall be described. The seed establishment period shall be modified for inclement weather, shut down periods, or for separate completion dates of areas.

#### 3.6.2 Satisfactory Stand of Grass Plants

Grass plants shall be evaluated for species and health when the grass plants are a minimum 1 inch high. A satisfactory stand of grass plants from the seeding operation for a field area shall be a minimum 20 grass plants per square foot. The total bare spots (defined as less than 20 grass plants per square foot) shall not exceed 2 percent of the total seeded area.

### 3.6.3 Maintenance During Establishment Period

Maintenance shall be performed a minimum of once per week throughout the growing seasons and during the first three months after installation. Otherwise, maintenance shall be performed a minimum of once each month. Maintenance of the seeded areas shall include eradicating weeds, insects and diseases; protecting embankments and ditches from surface erosion; maintaining erosion control materials and mulch; protecting installed areas from traffic; watering; and post-fertilization.

#### 3.6.3.1 Repair or Reinstall

Unsatisfactory stand of grass plants and mulch shall be repaired or reinstalled, and eroded areas shall be repaired in accordance with paragraph SITE PREPARATION.

#### 3.6.3.2 Maintenance Record

A record of each site visit shall be furnished, describing the maintenance work performed; areas repaired or reinstalled; and diagnosis for unsatisfactory stand of grass plants.

-- End of Section --

SECTION 02940  
ROOTWADS AND LOGS

PART 1 GENERAL

1.1 DESCRIPTION

This work shall consist of placing rootwads and logs provided by the government or salvaged from the project site during clearing operations. Locations and arrangements shown on the drawings are approximate and will be adjusted in the field. The material will be used during construction with work in rock riprap and rock boulders.

PART 2 MATERIALS

A specified number of rootwads and logs shall be furnished by the government for installation in the project. Additional logs and rootwads that are removed from logjams and clearing operations within the project footprint may be placed as habitat features in lieu of disposal. The materials information provided herein shall apply to logs and rootwads salvaged onsite as part of clearing operations. Contractor shall provide all materials for anchoring.

2.1 WOODY MATERIALS

2.1.1 Quality Control

Rootwads and logs shall be sound and free of excessive decay and contaminants. Branches and limbs shall be left intact as much as is practical given anchoring requirements.

2.1.2 Species

Rootwads and logs shall be of wood from coniferous trees such as Western Red Cedar and Douglas Fir.

2.1.3 Size

Rootwads shall have a minimum breast-height diameter of 24 inches and the rootballs shall be between 5 feet and feet in diameter. Those designated as Type "A" shall be a minimum of 6 feet long. Those designated as Type B shall be a minimum of 20 feet long.

2.1.4 Quantities

2.4.1.1 Quantities to be furnished by The Government

Quantities of rootwads and logs to be furnished by the government shall be as follows:

Type A - 129 pieces  
Type B - 47 pieces

#### 2.4.1.2 Materials Collected Onsite

In lieu of disposal and/or chipping, the contractor may salvage rootwads and logs from clearing and grubbing operations that meet the criteria listed herein and place them in addition to government provided material at locations approved by the Contracting Officer.

### 2.2 ANCHORING MATERIALS

#### 2.2.1 Anchor ("Ecology") Blocks

Anchor ("Ecology") blocks shall be as specified in Section 03413 PRECAST CONCRETE.

#### 2.2.2 Cable and Fittings

Connections between rootwads, logs, and anchors shall be made using uncoiled steel cable having a minimum diameter of 5/8 inch and a minimum tensile strength of 10,000 lbs.

Cable attachments shall be using a pressed eye, or a minimum of two U-bolt wire rope clips and a 1 foot tail, or an equivalent fitting. Connections shall be at least as strong as the cable itself.

## PART 3 EXECUTION

### 3.1 REGULATIONS

The contractor shall be wholly responsible for complying with all applicable regulations relating to stockpiles, hauling of materials, generation of dust, etc.

### 3.2 PLACEMENT

- a. Type A and Type B rootwads and logs shall be placed as directed by the Contracting Officer in the approximate locations shown on the drawings and shall be anchored as shown in the details. Logs and rootwads shall be placed at a variety of elevations to allow for wood recruitment and additional habitat at all flows.
- b. Logs and rootwads salvaged from clearing and grubbing operations shall be placed as field directed by the Contracting Officer and shall be anchored as shown on the drawings. Salvaged material larger than Type A shall be anchored as shown for Type B.

### 3.3 ANCHORING

As shown on the drawings, logs and rootwads shall be anchored to precast concrete Ecology blocks the drawings using steel cable.

- a. Cables ends shall be formed into "eyes" made by looping the ends and finishing with a minimum of two U-bolt wire rope clips and a 1 foot tail, or an approved finish of equal or greater strength. Cables shall be threaded through holes drilled in the logs. The holes shall have a minimum of 3 inches in diameter and shall be large enough to pass a

finished cable eye. Once threaded through the log, the opposite end of the cable shall be threaded through eye and the cable shall be cinched down around the log. The free end shall looped through the handle on the anchor block and the eye shall be attached back to the cable using "Crosby Bolt" type anchor shackle or equivalent. All anchors shall have a strength equivalent or greater than the cable itself.

- b. Anchor blocks shall be buried, at a minimum, to the depth shown on the drawings. Backfill around buried anchor blocks shall be treated as structural backfill and shall be compacted as described in Section 02300 EARTHWORK.

### 3.4 OTHER MATERIALS

Placing rootwads and logs may require manipulation of rock riprap, bed material, rock boulders, or other pieces of rootwads and logs, as directed by the Contracting Officer.

-- End of Section --

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SECTION 02950  
ROCK BOULDERS

PART 1 GENERAL

1.1 DESCRIPTION

This work shall consist of furnishing and placing rock boulders in the channel bed and along the channel bank as indicated on the drawings and as directed by the Contracting Officer.

1.2 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

CORPS OF ENGINEERS (COE)

CRD-C-107 (1988; R 1993) Specific Gravity and  
Absorption of Coarse Aggregate ASTM C-127

1.3 SUBMITTALS

Government approval is required for submittals with a "GA" designation; submittals having an "FIO" designation are for information only. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-01 Data

Source; FIO.

Rock source location, name of supplier, and phone number of contact person and description of the rock to be used.

Properties; FIO.

Rock size, weight, bulk density, and specific gravity for rock boulder material.

PART 2 PRODUCTS

2.1 QUALITY CONTROL

Where previous testing and service records satisfactory to the Contracting Officer are unavailable, the CO shall inspect the source of boulders to personally assess soundness and durability for the intended use.

2.2 WASHING

The rock boulders shall be washed and free of contaminants prior to being delivered to the site.

### 2.3 DIMENSIONS

Each rock boulder shall have an equivalent diameter between 5 and 6 feet. Rock boulders shall be rounded and the least dimension of any rock shall not be less than 1/4 of its greatest dimension. The rock shall be free from overburden, spoil, shale, structural defects, and organic material.

### 2.4 STONE QUALITY

Stone shall be durable material as approved by the Contracting Officer. Stone shall be free of expansive or other materials that could cause accelerated deterioration by exposure to project climatic conditions. Stone shall be free of cracks, blast fractures, bedding, seams and other defects that would tend to increase its deterioration from natural causes. Inspections for cracks, fractures, seams, bands of minerals, deleterious materials, and defects shall be made by visual examination. A hairline crack that is defined as being detrimental shall have a minimum width of 0.1 mm and shall be continuous for one-third the dimension of at least two sides of the stone. Stone shall be free of bands of minerals and deleterious materials that would result in breakage or reduction of specified stone weights or dimensions during or after placement. Each stone shall have sufficiently uniform physical properties throughout.

### 2.5 QUANTITIES

Eight(8)boulders shall be placed downstream from the weir structure #7.6 in the vicinity of station 106+25 .

Fifty Six (56) boulders shall be placed on the finished stream banks.

## PART 3 EXECUTION

### 3.1 REGULATIONS

The Contractor shall be wholly responsible for complying with all applicable regulations relating to stockpiles, hauling of materials, generation of dust, etc.

### 3.2 PLACEMENT

Placement of boulders shall be placed as directed by the Contracting Officer in the approximate locations shown in the drawings. Boulders shall be buried so that approximately two thirds of the boulder height is exposed. Burial height shall not vary by more than 6 inches. Boulders shall be located at least 6 feet from the weir structures and the edge of preformed scour holes. Boulders shall not be placed on slopes greater than 4H:1V.

### 3.3 OTHER MATERIALS

Placing rock boulders may require manipulation of rock riprap, bed material, or large woody debris as directed by the Contracting Officer.

-- End of Section --



SECTION 02960  
FABRIC WRAPPED SOIL LIFTS

PART 1 GENERAL

1.1 DESCRIPTION

This item shall consist of furnishing and installing biodegradable woven and non-woven coir (coconut fiber) fabric and construction of fabric wrapped soil lifts as shown on the drawings. The installation also includes vegetative materials described in SECTION 02920 TYPE I VEGETATION and SECTION 02922 TYPE III VEGETATION - SEEDING.

1.2 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM D 1388	(1995) Flexibility (discontinued with no replacement)
ASTM D 1777	(1996) Thickness of Geotextile
ASTM D 3776	(1996) Mass per unit area of Geosynthetics
ASTM D 4595	(1994) Tensile Strength and Elongation of Geotextile

1.3 SUBMITTALS

Government approval is required for submittals with a "GA" designation; submittals having an "FIO" designation are for information only. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-01 Data

Contacts; GA.

The Contractor shall submit to and gain approval from the Contracting Officer prior to delivery to the site the name, address and phone number of the supplier(s), the product name(s) and specifications, and the name of the contact person(s).

PART 2 PRODUCTS

2.1 NON-WOVEN COIR (INNER) FABRIC

Non-woven Coir Fabric is used as an inner fabric layer. The fabric shall be a composition blanket with 100% coconut fiber fill held together with a biodegradable netting on both sides sewn with a degradable thread on 1.5 inch centers with the following minimum average roll properties:

PROPERTY	STANDARD TEST	MINIMUM REQUIREMENT
Thickness	ASTM D 1777	0.25 inches
Flexibility	ASTM D 1388	8200 mg-cm
Tensile Strength	ASTM D 4595	230 lb/ft x 138 lb/ft
Elongation	ASTM D 4595	24.9% x 26.8%
Weight	ASTM D 3776	10 oz/sy
Open Area	Measured	50%
Roll Width	Measured	6.0 feet

## 2.2 WOVEN COIR (OUTER) FABRIC

### 2.2.1 Material

Woven Coir Fabric is used as an outer fabric layer to provide the main structural support biodegradable fabric reinforced soil lifts and slope protection. The woven fabric shall be a high strength, coir (100% coconut fiber), continuously woven mat (i.e., without seams) with the following minimum average roll properties:

PROPERTY	STANDARD TEST	MINIMUM REQUIREMENT
Thickness	ASTM D 1777	0.30 inches
Flexibility	ASTM D 1388	65030 x 29590 mg-cm
Tensile Strength	ASTM D 4595	1344 lb/ft x 626 lb/ft
Elongation	ASTM D 4595	34% x 38%
Weight	ASTM D 3776	20 oz/sy
Open Area	Measured	50%

### 2.2.2 Fabric Seams

Fabric Seams. Under no circumstances will fabric with seams be permitted to be used without the approval of the Contracting Officer. To obtain approval for the use of seamed fabrics, submit material specifications and a construction plan specifically showing or stating where the seams will be located in the constructed product.

## 2.3 WOODEN STAKES

Wooden stakes to anchor the fabric shall be 24 inches long. Wooden stakes shall be manufactured by ripping a 24 inch long standard 2 inch x 4 inch wooden stud along the diagonal as shown on the design drawings. Wooden stakes shall be manufactured from 2 inch x 4 inch wooden studs that are free of knots and not damaged. Wire staples or non-tapered stakes will not be permitted.

## PART 3 EXECUTION

### 3.1 PREPARATION

Preparation. Before placing fabric, the surface on which it is to be placed shall be prepared by removal of all stumps, boulders and other sharp objects. All holes and large ruts shall be filled with material and compacted as shown on the drawings. The surface shall be reviewed by the Contracting Officer prior to placement of fabrics.

### 3.2 INSTALLATION

The fabrics shall be installed as shown on the drawings. Installation shall be overseen and approved by the Contracting Officer. The fabrics shall be installed with a minimum embedment length as shown on the drawings. The fabrics shall be taut; mechanical tightening may be required to remove slack and provide containment of underlying soils as approved by the Contracting Officer. Soils shall be compacted in accordance with drawings and Sections 02300 EARTHWORK. Installation of live stakes and seeding shall be in accordance with SECTION 02920 TYPE I VEGETATION and SECTION 02922 TYPE III VEGETATION - SEEDING.

### 3.3 OVERLAP

Fabric shall be unrolled directly on the prepared surface. Fabric shall be joined with adjacent pieces of fabric by overlapping. Lapped joints in the fabric shall be placed transverse to the direction of flow with the overlap in the direction of flow. Adjacent sections shall be overlapped a minimum of:

18-inches	woven outer fabric
6-inches	non-woven inner fabric,

or as shown on the Drawings. Fabric overlaps shall be reviewed by the Contracting Officer prior to covering with overlying materials.

### 3.4 ANCHORING/STAKING

The fabric shall be staked with wooden stakes as shown on the design drawings at 3 feet on center. Fabric edges shall be staked and anchored in a key trench along all edges as indicated on the drawings. The fabric shall be staked along all edges, overlaps and at intervals as shown on the drawings and as approved by the Contracting Officer.

### 3.5 END TREATMENT

The ends of the biodegradable fabric reinforced soil lifts shall not be exposed to flow. The end treatment of the fabric reinforced soil lifts shall be installed by embedding a length, 3 feet minimum, of the outer fabric under the lowest lift and wrapping this fabric up around all constructed lifts and staked securely, as approved by the Contracting Officer.

-- End of Section --

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SECTION 03101  
FORMWORK FOR CONCRETE

PART 1 GENERAL

1.1 DESCRIPTION

This item shall consist of furnishing and installing formwork for placement of cast-in-place concrete to form the caps of the weir structures.

1.2 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

ACI INTERNATIONAL (ACI)

ACI 347R (1994) Guide to Formwork for Concrete

DEPARTMENT OF COMMERCE (DOC)

DOC PS 1 (1983) Construction and Industrial Plywood

1.3 DESIGN REQUIREMENTS

The design, engineering, and construction of the formwork shall be the responsibility of the Contractor. The formwork shall be designed for anticipated live and dead loads and shall comply with the tolerances specified in Section 03302 CONCRETE, paragraph CONSTRUCTION TOLERANCES. The formwork shall be designed as a complete system with consideration given to the effects of cementitious materials and mixture additives such as fly ash, cement type, plasticizers, accelerators, retarders, air entrainment, and others. The adequacy of formwork design and construction shall be monitored prior to and during concrete placement as part of the Contractor's approved Quality Control Plan.

1.4 SUBMITTALS

Government approval is required for all submittals with a "GA" designation; submittals having an "FIO" designation are for information only. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-09 Reports

Inspection of Formwork; GA.

## PART 2 PRODUCTS

### 2.1 MATERIALS

#### 2.1.1 Forms

Forms shall be fabricated with facing materials that will produce a finish meeting the specified construction tolerance requirements and the following surface classifications as defined in ACI 347R.

##### 2.1.1.1 Class "B" Finish

This class of finish shall apply to all surfaces except those specified to receive Class "D". The form facing material shall be composed of tongue-and-groove or shiplap lumber, plywood conforming to DOC PS 1, Grade B-B concrete form, tempered concrete form hard board or steel. Steel lining on wood sheathing will not be permitted.

##### 2.1.1.2 Class "D" Finish

This class of finish shall apply only to the vertical and bevelled faces on the upstream side of each weir structure, which will be buried below grade.

#### 2.1.2 Form Coating

Form coating shall be commercial formulation that will not bond with, stain, cause deterioration, or any other damage to concrete surfaces. The coating shall not impair subsequent treatment of concrete surfaces depending upon bond or adhesion nor impede the wetting of surfaces to be cured with water or curing compounds.

### 2.2 ACCESSORIES

Ties and other similar form accessories to be partially or wholly embedded in the concrete shall be of a commercially manufactured type. After the ends or end fasteners have been removed, the embedded portion of metal ties shall terminate not less than 2 inches from any concrete surface either exposed to view or exposed to water. Plastic snap ties may be used in locations where the surface will not be exposed to view. Form ties shall be constructed so that the ends or end fasteners can be removed without spalling the concrete.

## PART 3 EXECUTION

### 3.1 INSTALLATION

#### 3.1.1 Form Construction

Forms shall be constructed true to the structural design and required alignment. The form surface and joints shall be mortar tight and supported to achieve safe performance during construction, concrete placement, and form removal. The Contractor shall continuously monitor the alignment and stability of the forms during all phases to assure the finished product will meet the required surface classes. Failure of any supporting surface either due to surface texture, deflection or form collapse shall be the responsibility of the Contractor as will the replacement or correction of unsatisfactory surfaces. When forms for continuous surfaces are placed in

successive units, care shall be taken to fit the forms over the completed surface to obtain accurate alignment of the surface and to prevent leakage of mortar. Forms shall not be re-used if there is any evidence of defects which would impair the quality of the resulting concrete surface. All surfaces of used forms shall be cleaned of mortar and any other foreign material before reuse.

### 3.1.2 Chamfering

All exposed joints, edges and external corners shall be chamfered by molding placed in the forms unless the drawings specifically state that chamfering is to be omitted or as otherwise specified.

### 3.1.3 Coating

Forms for exposed or painted surfaces shall be coated with form oil or a form-release agent before the form or reinforcement is placed in final position. The coating shall be used as recommended in the manufacturer's instructions. Forms for unexposed surfaces may be wet with water in lieu of coating immediately before placing concrete, except that, in cold weather when freezing temperatures are anticipated, coating shall be mandatory. Surplus coating on form surfaces and coating on reinforcing steel and construction joints shall be removed before placing concrete.

## 3.2 FORM REMOVAL

The minimal time required for concrete to reach a strength adequate for removal of formwork without risking the safety of workers or the quality of the concrete depends on a number of factors including, but not limited to, ambient temperature, concrete lift heights, type and amount of concrete admixture, and type and amount of cementitious material in the concrete. It is the responsibility of the Contractor to consider all applicable factors and leave the forms in place until it is safe to remove them. In any case forms shall not be removed unless the minimum compressive strength requirements in Section 03302 CONCRETE are met, except as otherwise directed or specifically authorized. When conditions are such as to justify the requirement, forms will be required to remain in place for a longer period. All removal shall be accomplished in a manner which will prevent damage to the concrete and ensure the complete safety of the structure.

## 3.3 INSPECTION

Forms and embedded items shall be inspected in sufficient time prior to each concrete placement by the Contractor in order to certify to the Contracting Officer that they are ready to receive concrete. The results of each inspection of formwork shall be reported in writing and submitted in accordance with paragraph, SUBMITTALS.

-- End of Section --

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SECTION 03201  
CONCRETE REINFORCEMENT

PART 1 GENERAL

1.1 DESCRIPTION

This item shall consist of furnishing and installing steel reinforcement for cast-in-place and precast concrete structures.

1.2 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

ACI INTERNATIONAL (ACI)

ACI 315 (1995) ACI Detailing Manual: Section Details and Detailing of Concrete Reinforcement

ACI 318/318R (1995) Building Code Requirements for Reinforced Concrete

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM A 370 (1995a) Mechanical Testing of Steel Products

ASTM A 615/A 615M (1996a) Deformed and Plain Billet-Steel Bars for Concrete Reinforcement

1.3 SUBMITTALS

Government approval is required for all submittals with a "GA" designation; submittals having an "FIO" designation are for information only. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-04 Drawings

Fabrication and Placement; GA.

The Contractor shall submit shop drawings that include: reinforcement steel placement drawings; reinforcement steel schedules showing quantity, size, shape, dimensions, weight per foot, total weights and bending details; and details of bar supports showing types, sizes, spacing and sequence. Drawings shall be in accordance with ACI 315 detailing manual.

SD-09 Reports

Materials; GA. Tests, Inspections, and Verifications; GA.

Certified tests reports of reinforcement steel showing that the steel complies with the applicable specifications shall be furnished for each

steel shipment and identified with specific lots prior to placement. Three copies of the heat analyses shall be provided for each lot of steel furnished and the Contractor shall certify that the steel conforms to the heat analyses.

## PART 2 PRODUCTS

### 2.1 MATERIALS

Materials shall conform to the following requirements.

#### 2.1.1 Steel Bars

Steel bars shall comply with the requirements of ASTM A 615/A 615M, deformed, of the grades, sizes and lengths shown. All reinforcing bars shall be grade 60,  $F_y=60$  KSI.

#### 2.1.3 Accessories

##### 2.1.3.1 Bar Supports

Bar supports shall comply with the requirements of ACI 315. Supports for bars in concrete with formed surfaces exposed to view or to be painted shall be plastic-coated wire, stainless steel or precast concrete supports. Precast concrete supports shall be wedged-shaped, not larger than 3-1/2 by 3-1/2 inches, of thickness equal to that indicated for concrete cover and have an embedded hooked tie-wire for anchorage. Bar supports used in precast concrete with formed surfaces exposed to view shall be the same quality, texture and color as the finish surfaces.

##### 2.1.3.2 Wire Ties

Wire ties shall be 16 gage or heavier black annealed wire.

### 2.2 TESTS, INSPECTIONS, AND VERIFICATIONS

The Contractor shall have material tests required by applicable standards and specified performed by an approved laboratory and certified to demonstrate that the materials are in conformance with the specifications. Tests, inspections, and verifications shall be performed and certified at the Contractor's expense. Results shall be submitted in accordance with paragraph SUBMITTALS.

#### 2.2.1 Reinforcement Steel Tests

Mechanical testing of steel shall be in accordance with ASTM A 370 except as otherwise specified or required by the material specifications. Tension tests shall be performed on full cross-section specimens using a gage length that spans the extremities of specimens with welds or sleeves included. Chemical analyses of steel heats shall show the percentages of carbon, phosphorous, manganese, sulphur and silicon present in the steel.

PART 3 EXECUTION

3.1 FABRICATION AND PLACEMENT

Reinforcement steel and accessories shall be fabricated and placed as specified and shown on approved shop drawings (submitted in accordance with paragraph SUBMITTALS). Fabrication and placement details of steel and accessories not specified or shown shall be in accordance with ACI 315 and ACI 318/318R or as directed. Steel shall be fabricated to shapes and dimensions shown, placed where indicated within specified tolerances and adequately supported during concrete placement. Bars shall be securely tied in place before placing concrete. All bars are continuous unless noted otherwise in drawings. At the time of concrete placement all steel shall be free from loose, flaky rust, scale (except tight mill scale), mud, oil, grease or any other coating that might reduce the bond with the concrete.

3.1.1 Hooks and Bends

All steel shall be bent cold unless authorized. No steel bars shall be bent after being partially embedded in concrete unless indicated or authorized. Provide bent corners bars to match and lap horizontal bars at corners and intersections of footings and walls. Provide a minimum 48 diameters lap each side.

3.1.3 Placing Tolerances

3.1.3.1 Spacing

The spacing between adjacent bars and the distance between layers of bars are given on center and may not vary from the indicated position by more than one bar diameter nor more than 1 inch.

3.1.3.2 Concrete Cover

The minimum concrete cover of main reinforcement steel bars shall be 3 inches for concrete cast against earth and 1-1/2 inches for formed concrete exposed to earth, weather, or water; or as shown on the drawings. When architectural treatments such as formliners or stamping tools are used, coverage requirements shall be equaled or exceeded over the entire concrete surface. The allowable variation for minimum cover shall be as follows:

<u>MINIMUM COVER</u>	<u>VARIATION</u>
6 inch	plus 1/2 inch
4 inch	plus 3/8 inch
3 inch	plus 3/8 inch
2 inch	plus 1/4 inch
1-1/2 inch	plus 1/4 inch
1 inch	plus 1/8 inch
3/4 inch	plus 1/8 inch

3.1.4 Splicing

Splices in steel bars shall be made only as required. Rebar splices in concrete shall be Class B (24 inch minimum) unless otherwise noted on the drawings. Stagger alternative splices a minimum of 5 feet 0 inches unless otherwise noted. All splice locations are subject to Government approval.

Bars may be spliced at alternate or additional locations at no additional cost to the Government subject to approval.

3.1.4.1 Lap Splices

Lap splices shall be used only for bars smaller than size 14 and welded wire fabric. Lapped bars may be placed in contact and securely tied or spaced transversely apart to permit the embedment of the entire surface of each bar in concrete. Lapped bars shall not be spaced farther apart than  $\frac{1}{5}$  the required length of lap or 6 inches.

-- End of Section --

SECTION 03302  
CONCRETE

PART 1 GENERAL

1.1 DESCRIPTION

This item shall consist of furnishing and placing of concrete for cast-in-place structures, precast structures, and for backfill of pre-drilled holes after h-piles have been installed.

1.2 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

ACI INTERNATIONAL (ACI)

ACI 117/117R	(1990; Errata) Standard Tolerances for Concrete Construction and Materials
ACI 214	(1977; R 1989) Evaluation of Strength Test Results of Concrete
ACI 305R	(1991) Hot Weather Concreting
ACI 308	(1992) Standard Practice for Curing Concrete
ACI 347R	(1994) Guide to Formwork for Concrete

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM C 31	(1998) Making and Curing Concrete Test Specimens in the Field
ASTM C 33	(1993) Concrete Aggregates
ASTM C 39	(1999) Compressive Strength of Cylindrical Concrete Specimens
ASTM C 94	(1994) Ready-Mixed Concrete
ASTM C 143	(1990a) Slump of Hydraulic Cement Concrete
ASTM C 150	(1995) Portland Cement
ASTM C 172	(1990) Sampling Freshly Mixed Concrete
ASTM C 231	(1991b) Air Content of Freshly Mixed Concrete by the Pressure Method
ASTM C 260	(1994) Air-Entraining Admixtures for Concrete
ASTM C 494	(1999) Chemical Admixtures for Concrete

ASTM C 618	(1994a) Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use as a Mineral Admixture in Portland Cement Concrete
ASTM C 979	(1999) Standard Specification for Pigments for Integrally Colored Concrete
ASTM C 1077	(1995a) Laboratories Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Laboratory Evaluation
ASTM D 75	(1987; R 1992) Sampling Aggregates

CORPS OF ENGINEERS (COE)

COE CRD-C 400	(1963) Requirements for Water for Use in Mixing or Curing Concrete
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1.3 SUBMITTALS

Government approval is required for all submittals with a "GA" designation; submittals having an "FIO" designation are for information only. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-09 Reports

Aggregates; FIO.

Aggregates will be accepted on the basis of certificates of compliance and test reports that show the material(s) meets the quality and grading requirements of the specifications under which it is furnished.

Concrete Mixture Proportions; FIO.

Prior to placement of concrete, the contractor shall submit the mixture proportions that will produce concrete of the quality required. Applicable test reports shall be submitted to verify that the concrete mixture proportions selected will produce concrete of the quality specified.

SD-13 Certificates

Cementitious Materials; FIO.

Certificates of compliance attesting that the concrete materials meet the requirements of the specifications shall be submitted in accordance with the Special Clause "CERTIFICATES OF COMPLIANCE". Cementitious material will be accepted on the basis of a manufacturer's certificate of compliance, accompanied by mill test reports that the material(s) meet the requirements of the specification under which it is furnished.

Admixtures; FIO.

Chemical Admixtures shall be certified for compliance with all specification requirements.

#### SD-14 Samples

Color; GA.

Colored concrete samples shall be submitted for approval by Contracting Officer.

### 1.4 QUALITY ASSURANCE

The Government will maintain the option to sample and test aggregates and concrete to determine compliance with the specifications. The Contractor shall provide facilities and labor as may be necessary to assist the Government in procurement of representative test samples. Samples of aggregates will be obtained at the point of batching in accordance with ASTM D 75. Concrete will be sampled in accordance with ASTM C 172. Slump and air content will be determined in accordance with ASTM C 143 and ASTM C 231, respectively, when cylinders are molded. Compression test specimens will be made, cured, and transported in accordance with ASTM C 31. Compression test specimens will be tested in accordance with ASTM C 39. Samples for strength tests will be taken not less than once each shift in which concrete is produced from each class of concrete required. A minimum of three specimens will be made from each sample; two will be tested at 28 days (90 days if pozzolan is used) for acceptance, and one will be tested at 7 days for information.

#### 1.4.1 Strength

Acceptance test results will be the average strengths of two specimens tested at 28 days (90 days if pozzolan is used). The strength of the concrete will be considered satisfactory so long as the average of three consecutive acceptance test results equal or exceed the specified compressive strength,  $f'_c$ , and no individual acceptance test result falls below  $f'_c$  by more than 500 psi.

#### 1.4.2 Concrete Mixture Proportions

Concrete mixture proportions shall be the responsibility of the Contractor. Mixture proportions shall include the dry weights of cementitious material(s); the nominal maximum size of the coarse aggregate; the specific gravities, absorptions, and saturated surface-dry weights of fine and coarse aggregates; the quantities, types, and names of admixtures; and quantity of water per cubic yard of concrete. All materials included in the mixture proportions shall be of the same type and from the same source as will be used on the project.

### 1.5 DESIGN REQUIREMENTS

#### 1.5.1 Concrete Strength

Specified compressive strength  $f'_c$  shall be as follows:

<u>COMPRESSIVE STRENGTH (PSI)</u>	<u>STRUCTURE OR PORTION OF STRUCTURE</u>
5,000 @ 28 days	PRECAST PANELS
4,000 @ 28 days	PILE CAP ON WEIR STRUCTURES
3,000 @ 28 days	PRECAST ANCHOR ("ECOLOGY") BLOCKS
2,500 @ 28 days	PRE-DRILLED SHAFT BACKFILL

#### 1.5.2 Maximum Water-Cement (W/C) Ratio

Maximum W/C shall be as follows:

<u>WATER-CEMENT RATIO, BY MASS</u>	<u>STRUCTURE OR PORTION OF STRUCTURE</u>
0.38	PRECAST PANELS
0.40	PILE CAPS AND PRECAST ANCHOR BLOCKS
0.55	PRE-DRILLED SHAFT BACKFILL

#### 1.6 CONSTRUCTION TOLERANCES

##### 1.6.1 General

The definitions of the terms used in the following tables shall be as defined in ACI 117/117R. Level and grade tolerance measurements of slabs shall be made as soon as possible after finishing. When forms or shoring are used, the measurements shall be made prior to removal. Tolerances are not cumulative. The most restrictive tolerance controls. Tolerances shall not extend the structure beyond legal boundaries. Except as specified otherwise, plus tolerance increases the amount or dimension to which it applies, or raises a level alignment, and minus tolerance decreases the amount or dimension to which it applied, or lowers a level alignment. A tolerance without sign means plus or minus. Where only one signed tolerance is specified, there is no limit in the other direction.

##### TOLERANCE FOR FINISHED FORMED CONCRETE SURFACES

- (1) Departure from established alignment..... 3 inches
- (2) Departure from established grade at ..... 1 inch  
top and bottom of low flow notch
- (3) Departure from the relative ..... 1 inch  
elevation (i.e., 1 foot) between  
the invert of any two subsequent  
low flow notches
- (4) Departure from established grade ..... 3 inches  
at flowline and outer breakpoints
- (5) Variation from the  
plumb or specified  
batter in the lines  
and surface of walls  
Exposed, in 10 feet..... 1 inch  
Backfilled, in 10 feet .. 2 inches



#### 1.6.2 Appearance

A Class "B" finish shall apply to all surfaces except those specified to receive a Class "D" finish. A Class "D" finish shall apply to all surfaces which will be permanently concealed after construction. The surface requirements for the classes of finish required shall be as specified in ACI 347R. Permanently exposed surfaces shall be cleaned, if stained or otherwise discolored, by a method that does not harm the concrete and that is approved by the Contracting Officer.

### PART 2 PRODUCTS

#### 2.1 MATERIALS

##### 2.1.1 Cementitious Materials

Cementitious materials shall conform to the appropriate specifications listed:

##### 2.1.1.1 Portland Cement

ASTM C 150, Type II including false set requirements and low alkali.

##### 2.1.1.2 High-Early Strength Portland Cement

ASTM C 150, Type III with tricalcium aluminate (C3A) limited to 8 percent, low alkali, used only when specifically approved in writing.

##### 2.1.1.3 Pozzolan

Pozzolan shall conform to ASTM C 618, Class C or F, including requirements of Tables 1A and 2A.

##### 2.1.2 Aggregates

The maximum nominal size coarse aggregate shall be as listed below.

<u>AGGREGATE SIZE</u>	<u>STRUCTURE OR PORTION OF STRUCTURE</u>
3/4 INCH	PRECAST PANELS
1-1/2 INCH	PILE CAPS AND PRECAST ANCHOR ("ECOLOGY")BLOCKS
3/4 INCH	PRE-DRILLED SHAFT BACKFILL

Aggregates shall meet the quality and grading requirements of ASTM C 33 Class Designations 4M or better.

##### 2.1.3 Admixtures

Admixtures to be used, when required or approved, shall comply with the appropriate specification listed. Chemical admixtures that have been in storage at the project site for longer than 6 months or that have been subjected to freezing shall be retested at the expense of the contractor at the request of the Contracting Officer and shall be rejected if test results are not satisfactory.

2.1.3.1 Air-Entraining Admixture

Air-entraining admixture shall meet the requirements of ASTM C 260.

2.1.3.2 Water-Reducing or Retarding Admixture

Water-reducing or retarding admixture shall meet the requirements of ASTM C 494, Type A, B, or D.

2.1.4 Coloring Admixture

Coloring admixture: ASTM C 979, synthetic mineral oxide pigments or colored water reducing admixtures, free of carbon black; color stable, nonfading and resistant to lime and other alkali.

Color: Final color shall be a dark grey, submitted in accordance with paragraph SUBMITTALS and approved by the Contracting Officer from manufacturers full range.

2.1.5 Water

Water for mixing and curing shall be fresh, clean, potable, and free from injurious amounts of oil, acid, salt, or alkali, except that unpotable water may be used if it meets the requirements of COE CRD-C 400.

2.1.6 Reinforcing Steel

Reinforcing steel shall be in accordance with the details shown on the drawings and shall conform to SECTION 03201 CONCRETE REINFORCEMENT.

2.1.7 Formwork

Formwork and shall be in accordance with SECTION 03101 FORMWORK FOR CONCRETE.

2.2 CONCRETE MIXTURE PROPORTIONING

2.2.1 Quality of Mixture

For each portion of the structure, mixture proportions shall be selected so that the strength and W/C requirements listed in paragraph DESIGN REQUIREMENTS are met.

2.2.2 Nominal Maximum-Size Coarse Aggregate

Nominal maximum-size coarse aggregate shall be 1-1/2 inches except 3/4 inch nominal maximum-size coarse aggregate shall be used when any of the following conditions exist: the narrowest dimension between sides of forms is less than 7-1/2 inches, the depth of the slab is less than 4 inches, or the minimum clear spacing between reinforcing is less than 2-1/4 inches.

2.2.3 Air Content

Air content as delivered to the forms and as determined by ASTM C 231 shall be between 4 and 6 percent.

#### 2.2.4 Slump

The slump shall be determined in accordance with ASTM C 143 and shall be within the range of 1 to 3 inches.

#### 2.2.5 Required Average Compressive Strength

In meeting the strength requirements specified in paragraph CONCRETE STRENGTH, the selected mixture proportion shall produce a required average compressive strength  $f'_{cr}$  exceeding the specified strength  $f'_c$  by the amount indicated below.

##### 2.2.5.1 Average Compressive Strength from Test Records

Where a concrete production facility has test records, a standard deviation shall be established in accordance with the applicable provisions of ACI 214. Test records from which a standard deviation is calculated shall represent materials, quality control procedures, and conditions similar to those expected, shall represent concrete produced to meet a specified strength or strengths ( $f'_c$ ) within 1,000 psi of that specified for proposed work, and shall consist of at least 30 consecutive tests. A strength test shall be the average of the strengths of two cylinders made from the same sample of concrete and tested at 28 days or at another test age designated for determination of  $f'_c$ .

Required average compressive strength  $f'_{cr}$  used as the basis for selection of concrete proportions shall be the larger of the equations that follow using the standard deviation as determined above:

$$f'_{cr} = f'_c + 1.34S$$
$$f'_{cr} = f'_c + 2.33S - 500$$

Where  $S$  = standard deviation

Where a concrete production facility does not have test records meeting the requirements above but does have a record based on 15 to 29 consecutive tests, a standard deviation shall be established as the product of the calculated standard deviation and a modification factor from the following table:

NUMBER OF TESTS*	MODIFICATION FACTOR FOR STANDARD DEVIATION
less than 15	Use tabulation in paragraph 2.2.6.2
15	1.16
20	1.08
25	1.03
30 or more	1.00

\*Interpolate for intermediate numbers of tests.

##### 2.2.5.2 Average Compressive Strength without Previous Test Records

When a concrete production facility does not have sufficient field strength test records for calculation of the standard deviation, the required average strength  $f$  shall be determined as follows:

If the specified compressive strength  $f'_c$  is less than 3,000 psi,

$$f'_{cr} = f'_c + 1,000$$

If the specified compressive strength  $f'_c$  is 3,000 to 5,000 psi,

$$f'_{cr} = f'_c + 1,200$$

If the specified compressive strength  $f'_c$  is over 5,000 psi,

$$f'_{cr} = f'_c + 1,400$$

### PART 3 EXECUTION

#### 3.1 PREPARATION

##### 3.1.1 General

Construction joints shall be prepared to expose coarse aggregate, and the surface shall be clean, damp, and free of laitance. Ramps and walkways, as necessary, shall be constructed to allow safe and expeditious access for concrete and workmen. Snow, ice, standing or flowing water, loose particles, debris, and foreign matter shall have been removed. Earth foundations shall be satisfactorily compacted. Spare vibrators shall be available.

##### 3.1.2 Embedded Items

Reinforcement shall be secured in place; joints, anchors, and other embedded items shall have been positioned. Internal ties shall be arranged so that when the forms are removed all metal will be not less than 2 inches from concrete surfaces permanently exposed to view or exposed to water on the finished structures. Embedded items shall be free of oil and other foreign matters such as loose coatings or rust, paint, and scale. The embedding of wood in concrete will be permitted only when specifically authorized or directed. All equipment needed to place, consolidate, protect, and cure the concrete shall be at the placement site and in good operating condition.

##### 3.1.3 Formwork Installation

Forms shall be properly aligned, adequately supported, and mortar-tight. The form surfaces shall be smooth and free from irregularities, dents, sags, or holes when used for permanently exposed faces. All exposed joints and edges shall be chamfered, unless otherwise indicated.

##### 3.1.4 Concrete on Earth Foundations

Earth surfaces upon which concrete is to be placed shall be clean, damp, and free from debris, frost, ice, and standing or running water. Prior to placement of concrete, the earth foundation shall have been satisfactorily compacted in accordance with Section 02300 EARTHWORK.

##### 3.1.5 Production of Concrete

Ready-mixed concrete shall conform to ASTM C 94 except as otherwise specified.

### 3.2 CONVEYING AND PLACING CONCRETE

Conveying and placing concrete shall conform to the following requirements.

#### 3.2.1 General

Concrete placement shall not be permitted when weather conditions prevent proper placement and consolidation without approval. When concrete is mixed and/or transported by a truck mixer, the concrete shall be delivered to the site of the work and discharge shall be completed within 1-1/2 hours or 45 minutes when the placing temperature is 85 degrees F or greater unless a retarding admixture is used. Concrete shall be conveyed from the mixer to the forms as rapidly as practicable by methods which prevent segregation or loss of ingredients. Concrete shall be in place and consolidated within 15 minutes after discharge from the mixer. Concrete shall be deposited as close as possible to its final position in the forms and be so regulated that it may be effectively consolidated in horizontal layers 18 inches or less in thickness with a minimum of lateral movement. Concrete shall be placed by methods that will prevent segregation or loss of ingredients. There shall be no vertical drop greater than 5 feet except where suitable equipment is provided to prevent segregation and where specifically authorized. In no case will concrete be discharged to free-fall through reinforcing bars. Any concrete transferred from one conveying device to another shall be passed through a hopper that is conical in shape. Sufficient placing capacity shall be provided so that concrete placement can be kept plastic and free of cold joints while concrete is being placed. The placement shall be carried on at such a rate that the formation of cold joints will be prevented. The surfaces of horizontal construction joints shall be kept continuously wet for the first 12 hours during the 24-hour period prior to placing concrete. Surfaces may be dampened immediately before placement if necessary.

#### 3.2.2 Consolidation

Each layer of concrete shall be consolidated by internal vibrating equipment. Internal vibration shall be systematically accomplished by inserting the vibrator through the fresh concrete in the layer below at a uniform spacing over the entire area of placement. The distance between insertions shall be approximately 1.5 times the radius of action of the vibrator and overlay the adjacent, just-vibrated area by a few inches. The vibrator shall penetrate rapidly to the bottom of the layer and at least 6 inches into the layer below, if such a layer exists. It shall be held stationary until the concrete is consolidated and then withdrawn slowly at the rate of about 3 inches per second.

#### 3.2.3 Cold-Weather Requirements

No concrete placement shall be made when the ambient temperature is below 35 degrees F or if the ambient temperature is below 40 degrees F and falling. Suitable covering and other means as approved shall be provided for maintaining the concrete at a temperature of at least 50 degrees F for not less than 72 hours after placing and at a temperature above freezing for the remainder of the curing period. Salt, chemicals, or other foreign materials shall not be mixed with the concrete to prevent freezing. Any concrete damaged by freezing shall be removed and replaced at the expense of the contractor.

#### 3.2.4 Hot-Weather Requirements

When the rate of evaporation of surface moisture, as determined by use of Figure 1 of ACI 308, is expected to exceed 0.2 pound per square foot per hour, provisions for windbreaks, shading, fog spraying, or covering with a light-colored material shall be made in advance of placement, and such protective measures shall be taken as quickly as finishing operations will allow.

#### 3.2.5 Placing Concrete Underwater

Concrete in drilled shafts, if deposited underwater, shall be by means of tremie or concrete pump. The methods and equipment used shall be subject to approval. Concrete buckets will not be permitted for underwater placement of concrete except to deliver concrete to the tremie. The tremie shall be watertight and sufficiently large to permit a free flow of concrete. The discharge end of the pump line or tremie shaft shall be kept continuously submerged in the concrete. The underwater seal shall be effected in a manner that will not produce undue turbulence in the water. The tremie shaft shall be kept full of concrete to a point well above the water surface. Placement shall proceed without interruption until the concrete has been brought to the required height. The tremie shall not be moved horizontally during a placing operation, and a sufficient number of tremies shall be provided so that the maximum horizontal flow will be limited to 15 feet.

#### 3.3 FORM REMOVAL

Forms shall not be removed before the expiration of 24 hours after concrete placement except where otherwise specifically authorized. Supporting forms and shoring shall not be removed until the concrete has cured for at least 5 days. When conditions on the work are such as to justify the requirement, forms will be required to remain in place for longer periods.

#### 3.4 FINISHING

The ambient temperature of spaces adjacent to surfaces being finished shall be not less than 40 degrees F. In hot weather when the rate of evaporation of surface moisture, as determined by use of Figure 2.1.5 of ACI 305R, may reasonably be expected to exceed 0.2 pounds per square foot per hour. Provisions for windbreaks, shading, fog spraying, or wet covering with a light-colored material shall be made in advance of placement, and such protective measures shall be taken as quickly as finishing operations will allow. All unformed surfaces that are not to be covered by additional concrete or backfill shall have a float finish. Additional finishing shall be as specified below and shall be true to the elevation shown in the drawings. Surfaces to receive additional concrete or backfill shall be brought to the elevation shown on the drawings and left true and regular. Exterior surfaces shall be sloped for drainage unless otherwise shown in the drawing or as directed. Joints shall be carefully made with a jointing or edging tool. The finished surfaces shall be protected from stains or abrasions. Grate tampers or jitterbugs shall not be used.

### 3.4.1 Unformed Surfaces - Float Finish

Surfaces shall be screeded and darried or bullfloated to bring the surface to the required finish level with no coarse aggregate visible. No water, cement, or mortar shall be added to the surface during the finishing operation. The concrete, while still green but sufficiently hardened to bear a man's weight without deep imprint, shall be floated to a true and even plane. Chamfered edges shall be smoothed.

### 3.4.2 Formed Surfaces

Unless another finish is specified, surfaces shall be left with the texture imparted by the forms except that defective surfaces shall be repaired as described in paragraph FORMED SURFACE REPAIR. Unless painting of surfaces is required, uniform color of the concrete shall be maintained by use of only one mixture without changes in materials or proportions for any structure or portion of structure that is exposed to view or on which a special finish is required. The form panels used to produce the finish shall be orderly in arrangement, with joints between panels planned in approved relation to openings, building corners, and other architectural features. Forms shall not be reused if there is any evidence of surface wear or defects that would impair the quality of the surface.

### 3.4.3 Formed Surface Repair

After removal of forms, all ridges, lips, and bulges on surfaces permanently exposed shall be removed. Defective areas, voids, and honeycombs greater than 48 square inches in area or more than 2 inches deep shall be defined by 1/2 inch deep dovetailed saw cuts in a rectangular pattern, the defective concrete removed by chipping and the void repaired with replacement concrete. The prepared area shall be brush-coated with an epoxy resin meeting the requirements of paragraph EPOXY RESIN, a latex bonding agent meeting the requirements of paragraph LATEX BONDING COMPOUND, or a neat cement grout after dampening the area with water. The void shall be filled with replacement concrete in accordance with paragraph MATERIAL AND PROCEDURE FOR REPAIRS. All repairs shall be completed within 48 hours after form removal.

#### 3.4.3.1 Material and Procedure for Repairs

The cement used in the dry-packed mortar or replacement concrete shall be a blend of the cement used for production of project concrete and white portland cement properly proportioned so that the final color of the mortar or concrete will match adjacent concrete. Dry-packed mortar shall consist of one part cement to two and one-half parts fine aggregate. The fine aggregate shall be that used for production of project concrete. The mortar shall be remixed over a period of at least 30 minutes without addition of water until it obtains the stiffest consistency that will permit placing. Mortar shall be thoroughly compacted into the prepared void by tamping, rodding, ramming, etc. and struck off to match adjacent concrete. It shall be thoroughly compacted into the prepared void by internal vibration, tamping, rodding, ramming, etc. and shall be struck off and finished to match adjacent concrete. Forms shall be used to confine the concrete. If an expanding agent is used in the repair concrete, the repair shall be thoroughly confined on all sides including the top surface. Metal tools shall not be used to finish permanently exposed surfaces. The repaired areas shall be cured for 7 days. The temperature of the in situ concrete,

adjacent air, and replacement mortar or concrete shall be above 40 degrees F during placement, finishing, and curing. Other methods and materials for repair may be used only when approved in writing by the Contracting Officer. Repairs of the so called "plaster-type" will not be permitted.

### 3.5 CURING AND PROTECTION

Beginning immediately after placement and continuing for at least 7 days, except for concrete made with Type III cement, at least 3 days, all concrete shall be cured and protected from premature drying, extremes in temperature, rapid temperature change, freezing, mechanical damage, and exposure to rain or flowing water. All materials and equipment needed for adequate curing and protection shall be available and at the site of the placement prior to the start of concrete placement. Preservation of moisture for concrete surfaces not in contact with forms shall be accomplished by one of the following methods:

- a. Continuous sprinkling or ponding.
- b. Application of absorptive mats or fabrics kept continuously wet.
- c. Application of sand kept continuously wet.

The preservation of moisture for concrete surfaces placed against wooden forms shall be accomplished by keeping the forms continuously wet for 7 days, except for concrete made with Type III cement, 3 days. If forms are removed prior to end of the required curing period, other curing methods shall be used for the balance of the curing period. During the period of protection removal, the temperature of the air in contact with the concrete shall not be allowed to drop more than 25 degrees F within a 24 hour period.

### 3.6 TESTS AND INSPECTIONS

#### 3.6.1 General

The Contractor shall perform the inspections and tests described below, and, based upon the results of these inspections and tests, he shall take the action required and submit reports as required. When, in the opinion of the Contracting Officer, the concreting operation is out of control, concrete placement shall cease. The laboratory performing the tests shall be on site and shall conform with ASTM C 1077. The individuals who sample and test concrete or the constituents of concrete as required in this specification shall have demonstrated a knowledge and ability to perform the necessary test procedures equivalent to the ACI minimum guidelines for certification of Concrete Field Testing Technicians, Grade I. The individuals who perform the inspection of concrete construction shall have demonstrated a knowledge and ability equivalent to the ACI minimum guidelines for certification of Concrete Construction Inspector, Level II.



### 3.6.2 Inspection Details and Frequency of Testing

#### 3.6.2.1 Preparations for Placing

Foundation or construction joints, forms, and embedded items shall be inspected in sufficient time prior to each concrete placement by the Contractor to certify that it is ready to receive concrete.

#### 3.6.2.2 Air Content

Air content shall be checked at least twice during each shift that concrete is placed for each class of concrete required. Samples shall be obtained in accordance with ASTM C 172 and tested in accordance with ASTM C 231.

#### 3.6.2.3 Slump

Slump shall be checked twice during each shift that concrete is produced for each class of concrete required. Samples shall be obtained in accordance with ASTM C 172 and tested in accordance with ASTM C 143.

#### 3.6.2.4 Consolidation and Protection

The Contractor shall ensure that the concrete is properly consolidated, finished, protected, and cured.

### 3.6.3 Action Required

#### 3.6.3.1 Placing

The placing foreman shall not permit placing to begin until he has verified that an adequate number of acceptable vibrators, which are in working order and have competent operators, are available.

#### 3.6.3.2 Air Content

Whenever a test result is outside the specification limits, the concrete shall not be delivered to the forms and an adjustment shall be made to the dosage of the air-entrainment admixture.

#### 3.6.3.3 Slump

Whenever a test result is outside the specification limits, the concrete shall not be delivered to the forms and an adjustment should be made in the batch weights of water and fine aggregate. The adjustments are to be made so that the water-cement ratio does not exceed that specified in the submitted concrete mixture proportion.

### 3.5.3.4 Curing

a. Moist-Curing Inspections - At least once each shift, and once per day on nonwork days an inspection shall be made of all areas subject to moist curing. The surface moisture condition shall be noted and recorded.

b. Moist-Curing Corrective Action - When a daily inspection report lists an area of inadequate curing, immediate corrective action shall

be taken, and the required curing period for such areas shall be extended by one (1) day.

### 3.6.3 Reports

All results of tests or inspections conducted shall be reported informally as they are completed and in writing daily. A weekly report shall be prepared for the updating of control charts covering the entire period from the start of the construction season through the current week. During periods of cold-weather protection, reports of pertinent temperatures shall be made daily. These requirements do not relieve the Contractor of the obligation to report certain failures immediately as required in preceding paragraphs. Such reports of failures and the action taken shall be confirmed in writing in the routine reports. The Contracting Officer has the right to examine all test and inspection records.

### 3.6.4 Batch Tickets

For each delivery, before unloading at the site, the manufacturer of the product shall furnish to the Contracting Officer a delivery ticket prepared in accordance with the requirements in ASTM C 94.

-- End of Section --

SECTION 03413  
PRECAST CONCRETE

PART 1 GENERAL

1.1 DESCRIPTION

This item shall consist of fabricating and erection of precast concrete panels to be used as lagging between H-piles in the weir structures, and fabrication of precast concrete anchor (i.e. "Ecology") blocks for use with habitat features.

At the contractor's option, and with Government approval, an alternative lagging system may be used in lieu of the precast concrete panels in all or part of the project. Requirements for design of an alternative lagging system are provided herein.

1.2 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

ACI INTERNATIONAL (ACI)

ACI 211.1 (1991) Standard Practice for Selecting Proportions for Normal, Heavyweight, and Mass Concrete

ACI 318/318R (1995) Building Code Requirements for Reinforced Concrete

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM C 494 (1999) Chemical Admixtures for Concrete

ASTM C 1017 (1997) Chemical Admixtures for Use in Producing Flowing Concrete

PRECAST/PRESTRESSED CONCRETE INSTITUTE (PCI)

PCI Mnl-116S (1985) Manual for Quality Control for Plants and Production of Precast and Prestressed Concrete Products

PCI Mnl-117 (1996) Manual for Quality Control for Plants and Production of Architectural Precast Concrete Products

PCI Mnl-122 (1989) Architectural Precast Concrete

### 1.3 GENERAL REQUIREMENTS

Precast concrete panels and anchor ("Ecology") blocks shall be designed and fabricated by an experienced and acceptable precast concrete manufacturer. With approval from the Contracting Officer, the contractor may fabricate precast panels and "Ecology" blocks onsite.

### 1.4 DESIGN OF PRECAST MEMBERS

#### 1.4.1 Standards and Loads

Precast unit design shall conform to ACI 318/318R and PCI Mnl-122. Stresses due to restrained volume change caused by shrinkage and temperature differential, handling, transportation and erection shall be accounted for in the design.

#### 1.4.2 Connections

Connection of units to other members, or to other units shall be of the type and configuration indicated.

#### 1.4.3 Concrete Strength

Precast concrete panels and "Ecology" blocks shall have a 28-day compressive strength as described in SECTION 3302 - CONCRETE

#### 1.4.4 Concrete Proportion

Selection of proportions for concrete shall be based on the methodology presented in ACI 211.1 for normal weight concrete. Calcium chloride shall not be used in precast concrete and admixtures containing chloride ions, nitrates, or other substances that are corrosive shall not be used.

#### 1.4.5 Calculations

Calculations for design of members and connections not shown shall be made by a professional engineer experienced in the design of precast architectural concrete. Calculation shall include the analysis of member for lifting stresses and the sizing of the lifting inserts.

### 1.5 DESIGN CRITERIA FOR ALTERNATIVE LAGGING SYSTEMS

The contractor may choose to provide an alternative lagging system for use in lieu of the precast concrete panels. The lagging system must be designed by a professional engineer experienced in the design of retaining structures using H-piles and lagging and shall be submitted for government approval.

#### 1.5.1 Design Loads

Pile spacing is shown on Plates S-5 through S-17 of the construction drawings. Design loads, as shown on Plate S-1 in the construction drawings, include the following:

- a. Active and passive soil pressures for the upstream granular material, the downstream granular material, and the Kitsap formation. Passive soil pressures include a safety factor of 1.5.
- b. Difference in soil elevation upstream and downstream of the weir structures.
- c. Difference in hydrostatic head elevations upstream and downstream of the weir structures.

#### 1.5.2 Structural Requirements for Alternative Lagging Systems

- a. The lagging systems shall be designed to provide continuous bearing against the flange of the H-pile (as shown in the drawings) or against the upstream side of the H-Pile. Connections shall be designed to prevent lateral movement.
- b. To avoid settlement, the lagging shall be vertically supported by the H-pile or by the concrete cap, and shall not rely on soil bearing for vertical support.
- c. Alternative materials shall be able to withstand bending moments and shear stresses that result from the design loads specified in PARAGRAPH 1.5.1.
- d. Calculations for design of members and connections shall be made by a professional engineer. Calculation shall include the analysis of members for lifting stresses and the sizing of the lifting inserts.

#### 1.5.3 Other Criteria

- a. Materials used in lagging shall be resistant to corrosion or rot and shall retain full structural capacity for a minimum of 50 years.
- b. The lagging shall not require excavation of the weir structures in order to perform regular maintenance.
- c. In any given weir structure, lagging located above the elevation of the weir notch invert is subject to wetting and drying. Lagging located below the weir notch elevation and within the stream channel is assumed to be continually wet.
- d. Timbers that are chemically treated (including creosote) shall not be used.

#### 1.6 SUBMITTALS

Government approval is required for submittals with a "GA" designation; submittals having an "FIO" designation are for information only. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-01 Data

Calculations; FIO

Design calculations, prior to the manufacture of any precast structural concrete panels and "Ecology" blocks for the project.

Mix Design; FIO.

A statement giving the maximum nominal coarse aggregate size, the proportions of all ingredients and the type and amount of any admixtures that will be used in the manufacture of each strength and type of concrete, prior to commencing operations. The statement shall be accompanied by test results from an approved testing laboratory, certifying that the proportions selected will produce concrete of the properties required. No substitutions shall be made without additional tests to verify that the concrete properties are satisfactory.

SD-04 Drawings

Design Drawings; GA.

The contractor shall submit drawings, design computations, and specifications for alternative lagging systems for Government approval within 30 days from Notice to Proceed

SD-09 Reports

Materials; FIO.

Certified copies of test reports including all test data and all test results. Tests for compressive strength of concrete shall be performed by an approved independent commercial testing laboratory.

SD-18 Records

Manufacturer's Qualifications; GA.

A statement giving the qualifications of the precast concrete manufacturer and of the installers, prior to commencing operations. A qualified fabricator/installer is one that is experienced in manufacturing/installing precast structural concrete units similar to those indicated for this project and with a record of successful in-service performance.

1.7 STORAGE AND INSPECTION AT MANUFACTURER'S PLANT

Precast panels and "Ecology" blocks temporarily stored at the manufacturer's plant shall be protected from damage in accordance with PCI Mnl-116S and PCI Mnl-117 and PCI Mnl-122. Immediately prior to shipment to the jobsite, all precast concrete units shall be inspected for quality to insure all precast units conform to the requirements specified. Inspection for quality shall include, but shall not necessarily be limited to, the following elements: color, texture, dimensional tolerances, chipping, cracking, staining, warping and honeycombing. All defective precast concrete units shall be replaced or repaired as approved.

## 1.8 HANDLING AND STORAGE

Precast panels and "Ecology" blocks shall be delivered to the site in accordance with delivery schedule to avoid excessive build-up of units in storage at the site. Upon delivery to the jobsite all precast units shall be inspected for quality as specified above. If the precast units cannot be unloaded and placed directly into the work, they shall be stored onsite, off the ground and protected from weather, marring, or overload. Precast units shall be handled in accordance with manufacturer's instructions.

## PART 2 PRODUCTS

### 2.1 MATERIALS

Except as otherwise specified, material shall conform to Section 03302 CONCRETE and Section 03201 CONCRETE REINFORCEMENT.

#### 2.1.2 Form Release Agent

Release agent shall be manufacturer's standard nonstaining type.

#### 2.1.3 Admixtures

Admixtures shall conform to ASTM C 494. Plasticizing admixture, if used, shall conform to ASTM C 1017.

### 2.2 PRECAST CONCRETE PANELS AND "ECOLOGY" BLOCKS

Precast concrete panels and "Ecology" blocks shall be manufactured and cured in accordance with the applicable provisions of PCI Mn1-116S and PCI Mn1-117.

#### 2.2.1 Formwork

Forms shall be steel of adequate thickness, braced, stiffened, anchored and aligned to produce precast architectural concrete units within required dimensional tolerances. Forms shall be sufficiently rigid to provide dimensional stability during handling and concrete placement and consolidation. Fiberglass-reinforced plastic, plastic coated wood, elastomeric or other nonabsorptive material shall be used for making tight joints and rustication pieces.

#### 2.2.2 Reinforcement

Fabrication and placement of reinforcement shall conform to the details shown on the drawings and described in Section 03201 CONCRETE REINFORCEMENT.

The exposed "handle" of the "Ecology" block shall be integrally hooked or looped into the interior reinforcement such that it will not fail or detach for tensile loads up to 10,000 lbs.

#### 2.2.3 Embedded Accessories

Lifting devices, and other accessories which are to be embedded in the precast panels and "Ecology" blocks shall be furnished and installed in accordance with the approved detail drawings. Embedded items shall be

accurately positioned in their designed location, and shall have sufficient anchorage and embedment to satisfy design requirements.

#### 2.2.4 Stripping

Precast concrete units shall not be removed from forms until units develop sufficient strength to safely strip the formwork and to remove the precast concrete units from the forms to prevent damage to the units from overstress or chipping.

#### 2.2.5 Identification

Each precast concrete panel shall be marked to correspond to the identification marks for each different precast unit shown on the detail drawings.

#### 2.2.6 Finishes

##### 2.2.6.2 Exposed and other Surfaces

Surfaces of precast panels and "Ecology" blocks not exposed to view or not otherwise indicated to be finished shall be finished in accordance with Section 03302 CONCRETE.

### PART 3 EXECUTION

#### 3.1 ERECTION OF PRECAST CONCRETE PANELS

Precast panels shall be erected in accordance with the detail drawings and without damage to other panels or to adjacent members. Panels shall be set true to alignment and level, with joints properly spaced and aligned both vertically and horizontally. Panels shall bear continuously against the flange of the H-piles with the dimensions and tolerances shown on the construction drawings. As panels are being erected, shims and wedges shall be placed as required to maintain correct alignment. Pickup points, boxouts, inserts, and similar items shall be finished to match adjacent areas after erection. Erection of precast panels shall be supervised and performed by workmen skilled in this type of work.

##### 3.1.1 Field Modifications

Precast concrete panels may be saw cut to fit field conditions with prior approval of the Contracting Officer. For panel ends to be saw cut, chip down a minimum of 3/4" around reinforcing, burn off to 3/4" clear cover, and coat with epoxy mortar slightly mounded.

#### 3.2 INSTALLATION OF ALTERNATIVE LAGGING SYSTEMS

If used, the alternative lagging system shall be erected in accordance with the Government approved detail drawings. Members shall be set true to alignment and level, with joints properly spaced and aligned both vertically and horizontally. Members shall bear continuously against the flange of the H-piles with the dimensions and tolerances shown on the construction drawings, and shall not damage H-piles, adjacent members, or adjacent panels. Installation of lagging shall be supervised and performed by workmen skilled in this type of work.



### 3.3 PROTECTION OF WORK

Precast units and/or alternative lagging shall be protected against damage from subsequent operations.

### 3.4 DEFECTIVE WORK

Precast concrete panels and/or alternative lagging damaged during erection shall be repaired as soon after occurrence as possible or replaced, as directed, using approved procedures. All repairs to precast concrete units shall match the adjacent surfaces in color and texture and shall be as approved. Unless otherwise approved, repair procedures shall conform to PCI Mnl-116S and PCI Mnl-117.

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SECTION 05090  
WELDING, STRUCTURAL

## PART 1 GENERAL

## 1.1 DESCRIPTION

This item consists of welding for fabrication or modification of steel structures used in construction of the weirs.

## 1.2 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

## AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC)

AISC-04 (1989) Specification for Structural Steel Buildings - Allowable Stress Design, Plastic Design

## AMERICAN SOCIETY FOR NONDESTRUCTIVE TESTING (ASNT)

ASNT-01 (1996) Recommended Practice SNT-TC-1A

## AMERICAN WELDING SOCIETY (AWS)

AWS A2.4 (1993) Standard Symbols for Welding, Brazing and Nondestructive Examination

AWS A3.0 (1994) Standard Welding Terms and Definition

AWS D1.1 (1996) Structural Welding Code - Steel

AWS Z49.1 (1994) Safety in Welding and Cutting and Allied Processes

## 1.3 DEFINITIONS

Definitions of welding terms shall be in accordance with AWS A3.0.

## 1.4 GENERAL REQUIREMENTS

All welding shall conform to American Welding Society (AWS) structural welding code. All welding shall be performed by welders holding valid certificates and having current experience in the type of weld shown. The design of welded connections shall conform to AISC-04 unless otherwise indicated or specified. Material with welds will not be accepted unless the welding is specified or indicated on the drawings or otherwise approved. Welding shall be as specified in this section, except where additional requirements are shown on the drawings or are specified in other sections. Welding shall not be started until welding procedures, welders, welding operators, and tackers have been qualified and the submittals approved by the Contracting Officer. Qualification testing shall be performed at or near the

work site. Each Contractor performing welding shall maintain records of the test results obtained in welding procedure, welder, welding operator, and tacker performance qualifications.

#### 1.5 SUBMITTALS

Government approval is required for submittals with a "GA" designation; submittals having an "FIO" designation are for information only. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

##### SD-08 Statements

Welding Procedure Qualifications; FIO.

Welder, Welding Operator, and Tacker Qualification; FIO.

Inspector Qualification; FIO.

Copies of the welding procedure specifications; the procedure qualification test records; and the welder, welding operator, or tacker qualification test records.

##### SD-18 Records

Quality Control; FIO.

A quality assurance plan and records of tests and inspections.

#### 1.6 WELDING PROCEDURE QUALIFICATIONS

Except for prequalified (per AWS D1.1) and previously qualified procedures, each Contractor performing welding shall record in detail and shall qualify the welding procedure specification for any welding procedure followed in the fabrication of weldments. Qualification of welding procedures shall conform to AWS D1.1 and to the specifications in this section. Copies of the welding procedure specification and the results of the procedure qualification test for each type of welding which requires procedure qualification shall be submitted for approval. Approval of any procedure, however, will not relieve the Contractor of the sole responsibility for producing a finished structure meeting all the requirements of these specifications. This information shall be submitted on the forms in Appendix E of AWS D1.1. Welding procedure specifications shall be individually identified and shall be referenced on the detail drawings and erection drawings, or shall be suitably keyed to the contract drawings. In case of conflict between this specification and AWS D1.1, this specification governs.

##### 1.6.1 Previous Qualifications

Welding procedures previously qualified by test may be accepted for this contract without requalification if the following conditions are met:

- a. Testing was performed by an approved testing laboratory, technical consultant, or the Contractor's approved quality control organization.

- b. The qualified welding procedure conforms to the requirements of this specification and is applicable to welding conditions encountered under this contract.
- c. The welder, welding operator, and tacker qualification tests conform to the requirements of this specification and are applicable to welding conditions encountered under this contract.

#### 1.6.2 Prequalified Procedures

Welding procedures which are considered prequalified as specified in AWS D1.1 will be accepted without further qualification. The Contractor shall submit for approval a listing or an annotated drawing to indicate the joints not prequalified. Procedure qualification shall be required for these joints.

#### 1.6.3 Retests

If welding procedure fails to meet the requirements of AWS D1.1, the procedure specification shall be revised and requalified, or at the Contractor's option, welding procedure may be retested in accordance with AWS D1.1. If the welding procedure is qualified through retesting, all test results, including those of test welds that failed to meet the requirements, shall be submitted with the welding procedure.

#### 1.7 WELDER, WELDING OPERATOR, AND TACKER QUALIFICATION

Each welder, welding operator, and tacker assigned to work on this contract shall be qualified in accordance with the applicable requirements of AWS D1.1 and as specified in this section. Welders, welding operators, and tackers who make acceptable procedure qualification test welds will be considered qualified for the welding procedure used.

##### 1.7.1 Previous Qualifications

At the discretion of the Contracting Officer, welders, welding operators, and tackers qualified by test within the previous 6 months may be accepted for this contract without requalification if all the following conditions are met:

- a. Copies of the welding procedure specifications, the procedure qualification test records, and the welder, welding operator, and tacker qualification test records are submitted and approved in accordance with the specified requirements for detail drawings.
- b. Testing was performed by an approved testing laboratory, technical consultant, or the Contractor's approved quality control organization.
- c. The previously qualified welding procedure conforms to the requirements of this specification and is applicable to welding conditions encountered under this contract.
- d. The welder, welding operator, and tacker qualification tests conform to the requirements of this specification and are applicable to welding conditions encountered under this contract.

### 1.7.2 Certificates

Before assigning any welder, welding operator, or tacker to work under this contract, the Contractor shall submit the names of the welders, welding operators, and tackers to be employed, and certification that each individual is qualified as specified. The certification shall state the type of welding and positions for which the welder, welding operator, or tacker is qualified, the code and procedure under which the individual is qualified, the date qualified, and the name of the firm and person certifying the qualification tests. The certification shall be kept on file, and 3 copies shall be furnished. The certification shall be kept current for the duration of the contract.

### 1.7.3 Renewal of Qualification

Requalification of a welder or welding operator shall be required under any of the following conditions:

- a. It has been more than 6 months since the welder or welding operator has used the specific welding process for which he is qualified.
- b. There is specific reason to question the welder or welding operator's ability to make welds that meet the requirements of these specifications.
- c. The welder or welding operator was qualified by an employer other than those firms performing work under this contract, and a qualification test has not been taken within the past 12 months. Records showing periods of employment, name of employer where welder, or welding operator, was last employed, and the process for which qualified shall be submitted as evidence of conformance.
- d. A tacker who passes the qualification test shall be considered eligible to perform tack welding indefinitely in the positions and with the processes for which he is qualified, unless there is some specific reason to question the tacker's ability. In such a case, the tacker shall be required to pass the prescribed tack welding test.

## 1.8 INSPECTOR QUALIFICATION

Inspection and nondestructive testing personnel shall be qualified in accordance with the requirements of ASNT-01 for Levels I or II in the applicable nondestructive testing method. The inspector may be supported by assistant welding inspectors who are not qualified to ASNT-01, and assistant inspectors may perform specific inspection functions under the supervision of the qualified inspector.

## 1.9 SYMBOLS

Symbols shall be in accordance with AWS A2.4, unless otherwise indicated.

## 1.10 SAFETY

Safety precautions during welding shall conform to AWS Z49.1.

## PART 2 PRODUCTS

## 2.1 WELDING EQUIPMENT AND MATERIALS

All welding equipment, electrodes, welding wire, and fluxes shall be capable of producing satisfactory welds when used by a qualified welder or welding operator performing qualified welding procedures. All welding equipment and materials shall comply with the applicable requirements of AWS D1.1. All welding shall be performed using E70XX series low hydrogen rods unless noted otherwise.

## PART 3 EXECUTION

## 3.1 WELDING OPERATIONS

## 3.1.1 Requirements

Workmanship and techniques for welded construction shall conform to the requirements of AWS D1.1 and AISC-04. When AWS D1.1 and the AISC-04 specification conflict, the requirements of AWS D1.1 shall govern.

## 3.1.2 Identification

Welds shall be identified in one of the following ways:

- a. Written records shall be submitted to indicate the location of welds made by each welder, welding operator, or tacker.
- b. Each welder, welding operator, or tacker shall be assigned a number, letter, or symbol to identify welds made by that individual. The Contracting Officer may require welders, welding operators, and tackers to apply their symbol next to the weld by means of rubber stamp, felt-tipped marker with waterproof ink, or other methods that do not cause an indentation in the metal. For seam welds, the identification mark shall be adjacent to the weld at foot intervals. Identification with die stamps or electric etchers shall not be allowed.

## 3.2 QUALITY CONTROL

Testing shall be done by an approved inspection or testing laboratory or technical consultant; or if approved, the Contractor's inspection and testing personnel may be used instead of the commercial inspection or testing laboratory or technical consultant. The Contractor shall perform visual inspection to determine conformance with paragraph STANDARDS OF ACCEPTANCE. Procedures and techniques for inspection shall be in accordance with applicable requirements of AWS D1.1.

## 3.3 STANDARDS OF ACCEPTANCE

Dimensional tolerances for welded construction, details of welds, and quality of welds shall be in accordance with the applicable requirements of AWS D1.1 and the contract drawings. Nondestructive testing shall be by visual inspection methods. The minimum extent of nondestructive testing shall be 100 percent of welds or joints.

### 3.3.1 Nondestructive Examination

The welding shall be subject to inspection and tests in the mill, shop, and field. Inspection and tests in the mill or shop will not relieve the Contractor of the responsibility to furnish weldments of satisfactory quality. When materials or workmanship do not conform to the specification requirements, the Government reserves the right to reject material or workmanship or both at any time.

### 3.3.2 Destructive Tests

When metallographic specimens are removed from any part of a structure, the Contractor shall make repairs. The Contractor shall employ qualified welders or welding operators, and shall use the proper joints and welding procedures, including peening or heat treatment if required, to develop the full strength of the members and joints cut and to relieve residual stress.

## 3.4 GOVERNMENT INSPECTION AND TESTING

In addition to the inspection and tests performed by the Contractor for quality control, the Government will perform inspection and testing for acceptance to the extent determined by the Contracting Officer. The costs of such inspection and testing will be borne by the Contractor if unsatisfactory welds are discovered, or by the Government if the welds are satisfactory. The work may be performed by the Government's own forces or under a separate contract for inspection and testing. The Government reserves the right to perform supplemental nondestructive and destructive tests to determine compliance with paragraph STANDARDS OF ACCEPTANCE.

## 3.5 CORRECTIONS AND REPAIRS

When inspection or testing indicates defects in the weld joints, the welds shall be repaired using a qualified welder or welding operator as applicable. Corrections shall be in accordance with the requirements of AWS D1.1 and the specifications. Defects shall be repaired in accordance with the approved procedures. Defects discovered between passes shall be repaired before additional weld material is deposited. Wherever a defect is removed and repair by welding is not required, the affected area shall be blended into the surrounding surface to eliminate sharp notches, crevices, or corners. After a defect is thought to have been removed, and before rewelding, the area shall be examined by suitable methods to ensure that the defect has been eliminated. Repair welds shall meet the inspection requirements for the original welds. Any indication of a defect shall be regarded as a defect, unless reevaluation by nondestructive methods or by surface conditioning shows that no unacceptable defect is present.

-- End of Section --